

COMMUNITY
Pandemic
INFLUENZA
PREPAREDNESS
Plan

WATERLOO REGION

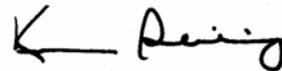
Dear Friends:

Enhancing community health and social well-being is one of the key strategic priorities of the Region of Waterloo Council. To work towards this objective, the Region is leading several initiatives to enhance emergency programs. These programs are designed to protect the health and safety of the citizens of Waterloo Region, and to work to maintain economic stability and societal order during an emergency event.

One emerging threat for which we are planning is the public health risk associated with a new influenza virus. If moderate or severe, an event of this nature would strain the health care, community support, municipal and emergency response sectors. Given this threat, Region of Waterloo Public Health has been collaborating with several of its community partners to develop a preparedness response and recovery plan for Waterloo Region – the Community Pandemic Influenza Preparedness Plan (CPIPP). The CPIPP will work to ensure our pandemic response and recovery efforts are coordinated, effective and transparent.

The extensive cooperation between organizations involved in the pandemic planning process is reflective of the community spirit in Waterloo Region, and it is the strength of these relationships that will determine our community's ability to respond to this or any other health-related emergency. Our sincere thanks go to the many individuals that served as members of the committees that worked to develop this plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Seiling". The signature is written in a cursive style with a prominent horizontal stroke at the beginning.

Ken Seiling
Regional Chair

Dear Community Member:

Public health experts around the world have warned about the public health risk associated with the emergence of a new human influenza virus. If a new virus emerges that is easily transmitted from person to person, this would mark the start of an influenza pandemic. If moderate or severe, this global outbreak of a pandemic influenza virus will have a tremendous impact on both the local and international communities; health care services will be strained, and there could be significant social and economic disruption. Therefore, planning for such a large scale health emergency is required to optimize health care delivery during a pandemic and ensure continuity of critical operations.

Although no one can predict with any certainty exactly when or how severe a pandemic may be, it is important to be prepared. We have chosen to plan using a moderate or severe pandemic scenario in order to ensure advanced problem solving for some of our biggest potential challenges. The planning exercise has had many other benefits including increased collaboration across various sectors in our community.

To help guide the community's response to an influenza pandemic, Region of Waterloo Public Health, in collaboration with several community stakeholders, prepared this Community Pandemic Influenza Preparedness Plan. This plan, which follows directions outlined in the both the Canadian Pandemic Influenza Plan and Ontario Health Plan for an Influenza Pandemic, is a strategy that clearly outlines how Waterloo Region is preparing for, and will respond to a pandemic. This is an important milestone in a pandemic planning process that will continue to evolve into the future.

Over 100 individuals from over 50 organizations served as members of the Steering Committee or working groups (and sub-groups) which were essential in completing this comprehensive strategy. The work would not have been completed without their hard work and dedication. Only through our collaborative efforts will we be able to work to protect the health and safety of the citizens of Waterloo Region. I am personally grateful for the effort and enthusiasm demonstrated by each and every participant in this planning process.

Sincerely,



Dr. Liana Nolan
Commissioner/Medical Officer of Health and
Chair, Community Pandemic Influenza Preparedness Plan Steering Committee

STAKEHOLDER ACKNOWLEDGEMENT AND APPROVAL

Whereas a Community Pandemic Influenza Preparedness Plan Steering Committee (“the Committee”) has been constituted from key stakeholders in Waterloo Region for the purpose of preparing a community response to the threat of an influenza pandemic;

And Whereas the Committee has prepared a Community Pandemic Influenza Preparedness Plan (“the Plan”) which follows this Stakeholder Acknowledgement and Approval Form;

By signing this document, each stakeholder acknowledges that their respective organization or organizational department has been consulted with regard to, and approved, the Plan. Each stakeholder agrees to collaborate with other community organizations and participate in Waterloo Region’s response and recovery efforts (as described in the Plan) to ensure they are coordinated, effective and transparent.

The signatories are from organizations that have specific roles in implementing the response tools and guidelines completed in this planning phase. As the planning process evolves and additional response and recovery strategies are developed in subsequent stages, other organizations that assume a role in implementing the plan will be asked to sign this stakeholder acknowledgement and approval form.

David Brenneman
Chief Administrative Officer, Township of Woolwich
Date: _____

Karen Charles
Manager, Disaster Management, South-west and Central Ontario, Canadian Red Cross Society
Date: _____

Bonnie Deekon
Executive Director, Cambridge & District Humane Society
Date: _____

Susan Duke
Chief Administrative Officer/Clerk, Director of Planning, Township of Wellesley
Date: _____

Julia Dumanian
President & CEO, Cambridge Memorial Hospital
Date: _____

Linda Fabi
Director of Education, Waterloo Region District School Board
Date: _____

Simon Farbrother
Chief Administrative Officer, City of Waterloo

Date: _____

Patrick Gaskin
Acting Chief Executive Officer, Grand River Hospital Corporation

Date: _____

R. Larry Gravill
Chief of Police, Waterloo Regional Police Service

Date: _____

Jane Hennig
Executive Director, Volunteer Action Centre of Kitchener-Waterloo

Date: _____

John Jones
Executive Director, Canadian Mental Health Association, Waterloo Regional Branch

Date: _____

Joanne Klausnitzer
Executive Director, Kitchener-Waterloo Meals on Wheels Incorporated

Date: _____

Carla Ladd
Chief Administrative Officer, City of Kitchener

Date: _____

Roger Lawler
Director of Education, Waterloo Catholic District School Board

Date: _____

Veronica MacDonald
Executive Director, Community Care Concepts of Woolwich, Wellesley and Wilmot

Date: _____

Ward McAllister
Manager, Kitchener-Waterloo Humane Society

Date: _____

Rodger Mordue
Acting Administrator/Clerk Treasurer, Township of North Dumfries

Date: _____

Monica Morrison
Senior Program Manager, Meals on Wheels and Community Home Support

Date: _____

David Murray
Executive Director, Waterloo Wellington Community Care Access Centre

Date: _____

Mike Murray
Chief Administrative Officer, Region of Waterloo

Date: _____

Peter Ringrose
Executive Director, Family & Children's Services of the Waterloo Region

Date: _____

Katharine Schmidt
Executive Director, The Foodbank of Waterloo Region

Date: _____

Pat Singleton
Executive Director, Cambridge Self-Help Food Bank

Date: _____

Don Smith
Chief Administrative Officer, City of Cambridge

Date: _____

Maira Taylor
President, St. Mary's General Hospital

Date: _____

Jerry Van Ooteghem
President & CEO, Kitchener-Wilmot Hydro Inc. and Regional Hydro Coordinator

Date: _____

Grant Whittington
Chief Administrative Officer, Township of Wilmot

Date: _____

**Community Pandemic Influenza Preparedness Plan — Waterloo Region
April 2007**

TABLE OF CONTENTS

Section	Page Reference
Preface	
Acknowledgements	i
Abbreviations	vii
Components of the Plan	x
Executive Summary	xiii
Part I: Planning Framework	1
Introduction	3
Planning Approach	
Background and Context for Planning	5
What is Influenza?	
What is an Influenza Pandemic?	
Pandemic Planning Periods and Phases	
Declaring the Start of an Influenza Pandemic	
What is the Potential Impact of a Pandemic on Waterloo Region?	
Why is Waterloo Region Planning for an Influenza Pandemic?	
Planning Authority	
Legislative Authority	
Goals, Assumptions, Guiding Principles and Ethical Framework for Decision Making	11
Goals	
Assumptions	
Guiding Principles	
Ethical Framework for Decision Making	
Responding to an Influenza Pandemic	19
Roles and Responsibilities during an Influenza Pandemic	
Waterloo Region Pandemic Response Structure	
Part II: Region of Waterloo Public Health Response Tools and Guidelines	32
Surveillance	33
Definitions & Objectives of Surveillance Activities	
Response to Surveillance Findings	
Surveillance for Influenza	
Surveillance for Vaccine Use and Adverse Events Following Immunization	
Surveillance of Antiviral Use and Adverse Events	
Returning to the Interpandemic Period	
Areas of Ongoing Discussion	
Next Steps	
Public Health Measures	49
Objectives	
Community Pandemic Influenza Preparedness Plan — Waterloo Region April 2007	

Public Health Measures	
Factors to Consider in the Selection and Application of Public Health Measures	
Responsibility and Authority for Public Health Measures	
Responsibility for Communication of Measures	
Public Health Measures/Strategies for Mitigating an Influenza Pandemic	
School and Child Care Centre Measures	
Recommendations Regarding Restrictions of Non-Essential Public Gatherings	
Travel and Border-Related Measures	
Reporting Community Compliance with Measures	
Interventions or Public Health Measures Unlikely to be Recommended	
Next Steps	
Antiviral Procurement, Distribution and Use	67
Classes of Antiviral Drugs	
National Antiviral Stockpile	
Potential Strategies for use of Antiviral Drugs during a Pandemic	
Responsibility for Antiviral Prioritization Strategy	
Antiviral Distribution in Waterloo Region	
Monitoring of Antiviral Use	
Monitoring for Development of Drug Resistance to Antivirals	
Outstanding Issues	
Next Steps	
Mass Immunization	75
Goals and Objectives	
Preparedness and Planning for Mass Clinics	
Priority Groups	
Activation of the Mass Immunization Plan	
Clinic Site Selection	
Supplies	
Staff Resources and Roles	
Clinical Responsibility for Screening	
Clinical Staff Roles	
Infection Prevention and Control/Bio-Hazardous Waste Disposal	
Documentation	
Adverse Events Following Immunization Forms/Follow-up	
Improving Language Access	
Operational Details	
Next Steps	
Part III: Health and Support Services during an Influenza Pandemic	82
Health Services	83
Coordinating the Response Effort	
Community Health Services	
Acute Health Services	
General Patient Flow Process	
Next Steps	
References and Supporting Documentation	

Community Support Services	107
Planning Considerations	
Coordinating the Response Effort	
Populations that May Require Novel Community Support Services	
Community Support Services during an Influenza Pandemic	
Concept of Operations	
Vulnerable Populations	
Homeless Populations	
How Individuals/Organizations will Access the System	
Next Steps	
References and Supporting Documentation	
Emergency Services	121
Planning Considerations	
Emergency Medical Services Response	
Tiered Protocol	
Infection Prevention and Control Measures	
Next Steps	
Part IV: Health Care Sector Response Tools and Guidelines	127
Equipment and Supplies	129
Planning Considerations	
Stockpiling in Waterloo Region (Health Care Organizations)	
Stockpiling in Waterloo Region (Emergency Response Organizations)	
Influenza Assessment, Treatment and Referral Centres	
Next Steps	
Infection Prevention and Control	133
Overview of the Chapter	
Overview of Influenza and Infection Prevention and Control	
Infection Prevention and Control Precautions during a Pandemic	
Environmental Infection Control	
Supplemental Guidance for Hospitals	
Supplemental Guidance for Primary and Alternative Care Settings	
Next Steps	
References and Supporting Documentation	
Health Human Resources	161
Planning Considerations	
Health Human Resource Issues	
Redeployment Considerations	
Fit for Work Program Recommendations	
Next Steps	
References and Supporting Documentation	
Psychosocial Supports for Health Care Workers	171
Overview	
Issues	
Pre-Pandemic Action Plan	
Action Plan during a Pandemic Event	

Next Steps	
References and Supporting Documentation	
Part V: Municipal Services Response Tools and Guidelines	177
Maintaining Municipal Critical Infrastructure	179
Planning Considerations	
Coordinating the Response Effort	
Maintaining Municipal Critical Infrastructure	
Next Steps	
Planning for a Surge in Natural Deaths	185
Surge in Natural Deaths	
Expediting Remains Processing During a Pandemic	
Challenges	
Finalizing the Strategy	
Next Steps	
References and Supporting Documentation	
Crisis Communications	193
Planning Considerations	
The Role of Public Health	
Key Audiences and Stakeholders	
Roles and Responsibilities	
The Communications Control Group	
Spokespeople and Communication Leads	
Communication Control Group Responsibility Checklists	
Communication Objectives and Key Messages	
Communications Vehicles	
Evaluating Communications	
Next Steps	
Appendices	205
1 Declaration of Emergency Form	206
2 Termination of a Declared Emergency Form	207
3 Potential Public Health Measures (by Planning Phase)	208
4 Initial Facility Profile for Mass Immunization Clinic	209
5 Follow-Up Facility Profile for Mass Immunization Clinic	210
6 Clinic Set-up and Design — Site Visit Check List	211
7 “Clinic in a Box” — Mass Immunization Supply List for 2000 Individuals*	212
8 Proposed Mass Immunization Clinic Staffing Plan	214
9 Mass Immunization Clinic Operational Details	217
10 Primary Assessment Record – Adult	220
11 Primary Assessment Record – Paediatrics	228
12 Map of Potential Flu Centre Sites	237
13 Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee Terms Of Reference	238
14 Waterloo Region Disposition Algorithm for Adults	242
15 Waterloo Region Disposition Algorithm for Paediatrics	243
16 Acute Care Facility Adult Assessment Form	244

17	Acute Care Facility Paediatric Assessment Form	249
18	Suspected Pandemic Influenza Medical Admission Orders for Adults	254
19	Suspected Pandemic Influenza Medical Admission Orders for Paediatrics	257
20	EMS Pandemic-Specific Response — Flow Chart	261
21	Letter of Agreement for the Activation of Tiered Response 'A' Category	262
22	Letter of Agreement for the Activation of Tiered Response 'B' Category	263
23	Infection Prevention & Control Appendices	264
24	Common Responses to Stress during a Community Crisis	268
25	Psychosocial "Lessons Learned" From Past Emergency Events	270
26	Draft Mutual Assistance Agreement for Critical Infrastructure Providers	271
27	Coroner's Screening Questionnaire	280
28	Key Considerations when Planning for a Surge in Natural Deaths during an Influenza Pandemic	283
29	Sample Communications Bulletin	287
30	Communications Control Group Membership	288
31	Frequently Asked Questions about Pandemic Influenza	289

List of Tables

Table 1	WHO Pandemic Periods and Phases	6
Table 2	Example of WHO and Canadian Pandemic Activity Levels	7
Table 3	Estimated Impact of an Influenza Pandemic in Waterloo Region	8
Table 4	Summary of Roles and Responsibilities by Control Group	30
Table 5	Summary of Case and Contact Management Activities	56
Table 6	Potential Actions/Recommendations Related to Schools and Child Care Facilities	60
Table 7	Public Health Measures that will not be recommended during a Pandemic	63
Table 8	Proposed Flu Centres (by Level/Tier) in Waterloo Region	88
Table 9	Criteria for Admission to Acute Care Facilities	94
Table 10	Personal Protective Equipment for Care of Patients with Pandemic Influenza	142
Table 11	List of Critical Infrastructure and Functions Providers will work to Maintain during an Influenza Pandemic	181

List of Figures

Figure 1	Waterloo Region Pandemic Response Structure	21
Figure 2	Control Groups' Business Cycle	31
Figure 3	Draft Management Structure for Influenza Assessment, Treatment and Referral Centres and Convalescent Care Centres	90
Figure 4	Community Support Sector Concept of Operations	112
Figure 5	Expediting Remains Processing During a Pandemic	186
Figure 6	Pandemic Communications Information Cycle	202

List of Flow Charts

Chart 1	Patient Flow Chart #1	97
Chart 2	Patient Flow Chart #2	101

ACKNOWLEDGEMENTS

Region of Waterloo Public Health acknowledges the hard work and dedication of the following individuals who volunteered to serve as members of the Community Pandemic Influenza Preparedness Plan (CPIPP) Steering Committee and its six working groups. Established in May 2006, the Steering Committee and working groups were comprised of stakeholders representing numerous organizations from the health, community support, municipal, and emergency response sectors.

The Steering Committee was delegated a number of responsibilities including: provide advice to, and liaise with, the working groups; oversee and monitor working group activities and receive items for discussion/decision when appropriate; and, reconcile working group recommendations into one coherent response plan.

Working group members were responsible for representing their sectors within the community planning process, assisting the project managers in drafting the various chapters of the plan or by providing them with sector-specific information required to complete the plan. Members also provided comprehensive feedback and analysis during the review and revision of the plan drafts.

Each representative worked diligently to develop this Community Pandemic Influenza Preparedness Plan. Region of Waterloo Public Health thanks them for their support and looks forward to their continued involvement in future planning and implementation processes.

Steering Committee

<i>Member</i>	<i>Organization</i>
Lydia Chudleigh	St. Mary's General Hospital
Dr. Daniel Kollek	St. Mary's General Hospital/Grand River Hospital (now resigned) and Centre for Excellence in Emergency Preparedness
Marianne Kraemer	Waterloo Wellington Community Care Access Centre
Brenda Lanteigne	Grand River Hospital
Mike Murray	Region of Waterloo
Dr. Liana Nolan*	Region of Waterloo Public Health
Karen Quigley-Hobbs**	Region of Waterloo Public Health
Mike Schuster	Region of Waterloo Social Services
Kelly Smith	Waterloo Wellington Community Care Access Centre
Bryan Stortz	Region of Waterloo Corporate Communications
Marg Verbeek	Region of Waterloo Emergency Measures
Kim Voelker	Waterloo Wellington Community Care Access Centre

*Chair **Vice-Chair

<i>Ex officio/ad hoc members</i>	<i>Organization</i>
Naideen Bailey	Region of Waterloo Public Health
Chris Harold	Region of Waterloo Public Health
Matt Saunders	Global Consulting

Region of Waterloo Public Health would also like to thank the following individual for their contributions:

Shannon-Melissa Dunlop St. Mary's General Hospital (now resigned)

Jean-Louis Gaudet	Lura Consulting
Pamela Hubbard	Lura Consulting
Sally Leppard	Lura Consulting
Samantha Wilson-Clark	Region of Waterloo Public Health (now resigned)

Health Services Working Group

Acute Health Services Sub-group

<i>Member</i>	<i>Organization</i>
Lydia Chudleigh**	St. Mary's General Hospital
Terrie Dean	Waterloo Wellington Community Care Access Centre
Dr. Daniel Kollek*	St. Mary's General Hospital/Grand River Hospital (now resigned) and Centre for Excellence in Emergency Preparedness
Dr. Jonathon Langridge	St. Mary's General Hospital
Brenda Leis	Grand River Hospital
Cheryl MacInnes	Cambridge Memorial Hospital
Dr. Liana Nolan	Region of Waterloo Public Health
Dr. Linda Pineau	Grand River Hospital
John Prno	Emergency Medical Services
John Vanderlaan	Grand River Hospital
Lynn Voelzing	St. Mary's General Hospital

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individual for their contributions:

Dr. Ron McMillan	Cambridge Memorial Hospital (now resigned)
------------------	--

Community Health Services Sub-group

<i>Member</i>	<i>Organization</i>
Kelly Baechler	Comcare Health Services
Tina Cain	Cambridge Urgent Care Centre
Laura Carlson	The Sunshine Centre
Bernadette Grey	Lanark Heights Long-Term Care Home
Stephen Gross	Kitchener Downtown Community Health Centre
Brenda Husk	Meadowcroft Retirement Home
Debbie Kauk	Comcare Health Services
Elizabeth Klassen	Waterloo Regional Homes for Mental Health
Marianne Kraemer*	Waterloo Wellington Community Care Access Centre
Toni Lemon	Pace Homecare Services
Karen Ostrander	Wilfrid Laurier University
Ellen Otterbein	The Westmount Long-Term Care Home (now resigned)
Kevin Petendra	Emergency Medical Services
Karen Quigley-Hobbs	Region of Waterloo Public Health
Marlene Raasok	Conestoga College
Dr. Janet Samolcyk	Grandview Family Health Team
Dr. Barbara Schumacher	University of Waterloo
Dr. Martha Taylor	Family Physician
Dr. Beth Vallieres	Cambridge Urgent Care Centre

Kim Voelker*	Waterloo Wellington Community Care Access Centre
Sue Wideman	Carepartners
Kathy Wilkinson	St. Luke's Place

*Co-Chair

Region of Waterloo Public Health would also like to thank the following individuals for their contributions:

Lydia Chudleigh	St. Mary's General Hospital
Bill Jeffrey	Conestoga College (now retired)
Rosalyn LaRochelle	Woolwich Community Health Centre (now resigned)
Steve LaRochelle	Region of Waterloo Social Services
Roger Lawler	Waterloo Catholic District School Board
Cheryl MacInnes	Cambridge Memorial Hospital
Mike Murray	Region of Waterloo
Dr. Liana Nolan	Region of Waterloo Public Health
John Prno	Emergency Medical Services
Tammy Quigley	St. Mary's General Hospital
Ruth Schertzberg	Grand River Hospital
Thomas Schmidt	Region of Waterloo Transportation & Environmental Services
John Shewchuk	Waterloo Catholic District School Board
Marg Verbeek	Region of Waterloo Emergency Measures
Anne Marie Webster	St. Louis Parish, Parish Nursing Representative
Arnie Wohlgemut	Waterloo Region District School Board

Community Support Working Group

<i>Member</i>	<i>Organization</i>
Bianca Bitsakasis-Squires	Waterloo Home Support
Wendi Campbell	The Food Bank of Waterloo Region
Karen Charles**	Canadian Red Cross Society
Janis Doran	PATER Program
Jane Hennig	Volunteer Action Centre of Kitchener-Waterloo
Jim King	City of Cambridge
Joanne Klausnitzer	Kitchener-Waterloo Meals on Wheels Incorporated
Marianne Kraemer	Waterloo Wellington Community Care Access Centre
Steve LaRochelle	Region of Waterloo Social Services
Tony Lea	St. John Ambulance
Ron Martens	Family & Children's Services of the Waterloo Region
Rob Martin	Waterloo Regional Homes for Mental Health
Gwen Page	Canadian Mental Health Association (now resigned)
Ann Pappert	City of Kitchener
Betty Perrin	Community Alzheimer Programs
Rev. Christopher Pratt	St. John the Evangelist Church
Greg Romanick	City of Waterloo
Deb Schlichter	House of Friendship
Mike Schuster*	Region of Waterloo Social Services
Major Rick Sheasby	Salvation Army
John Shewchuk	Waterloo Catholic District School Board
Pat Singleton	Cambridge Self-Help Food Bank
Ines Sousa-Batista	Cambridge Family YMCA (Immigrant Services)

Linda Taylor	Region of Waterloo Social Services (now resigned)
Anne Marie Webster	St. Louis Parish, Parish Nursing Representative
Arnie Wohlgemut	Waterloo Region District School Board
Dale Wombwell	Salvation Army

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individuals for their contributions:

Deb Bergey	Region of Waterloo Social Services
Christina Churchill	Independent Living Centre
Dave Cooke	City of Cambridge (now resigned)
Jean Cull	Family & Children's Services of the Waterloo Region
Jo-Ann Hutchison	City of Kitchener
Debbie Kauk	Comcare Health Services
Jacki Langlois	Volunteer Cambridge (no longer in operation)
Veronica MacDonald	Community Care Concepts
Wendy MacIntosh	City of Waterloo
Monica Morrison	Meals on Wheels & Community Home Support
Steve Pawelko	Family & Children's Services of the Waterloo Region
Mary Thorpe	City of Waterloo
Janet Wall	City of Waterloo
Reg Weber	City of Cambridge
Deb Young	Region of Waterloo Planning, Housing & Community Services

Occupational Health & Safety and Human Resources Working Group

<i>Member</i>	<i>Organization</i>
Cindy Blair	Region of Waterloo Human Resources
Rena Burkholder	St. Mary's General Hospital
Katherine Kuhnt	Region of Waterloo Public Health
Roger Mayo	Emergency Medical Services
Shirley Proctor	Grand River Hospital
Anne Rocchi	Grand River Hospital
Kelly Smith*	Waterloo Wellington Community Care Access Centre
Susan Toth**	Cambridge Memorial Hospital
Cathy Vandervoort	Cambridge Memorial Hospital

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individuals for their contributions:

Shannon-Melissa Dunlop	St. Mary's General Hospital (now resigned)
Randy Esford	Grand River Hospital
Andreea Popa	St. Mary's General Hospital
Glenn Roach	Waterloo Wellington Community Care Access Centre
Penny Smiley	Region of Waterloo Human Resources

Equipment and Supplies Working Group

<i>Member</i>	<i>Organization</i>
Naideen Bailey	Region of Waterloo Public Health
Dave Forbes	Cambridge Memorial Hospital
Leah Gibson**	Waterloo Wellington Community Care Access Centre
Brenda Lanteigne*	Grand River Hospital
Roger Mayo	Emergency Medical Services
Vicki Sills	St. Mary's General Hospital
Charles Whitlock	Region of Waterloo Finance
Debbie Woodhall	St. Mary's General Hospital

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individual for their contributions:

Lynn Wilson Region of Waterloo Finance

Emergency Management Working Group

<i>Member</i>	<i>Organization</i>
Marvin Bosetti	Township of North Dumfries (now retired)
Chief Rob Browning	City of Kitchener/Regional Fire Coordinator
Ron Charie	Hydro Coordinator (now retired)
Susan Duke	Township of Wellesley
Mark Erb	Erb & Good Family Funeral Home Ltd.
Simon Farbrother	City of Waterloo
Deputy Chief Mike Mann	Waterloo Regional Police Service
Mike Murray*	Region of Waterloo
Dr. Liana Nolan	Region of Waterloo Public Health
John Prno	Emergency Medical Services
Chief John Ritz	Township of Wilmot
Thomas Schmidt	Region of Waterloo Transportation & Environmental Services
Mike Schuster	Region of Waterloo Social Services
Peter Simmons	Township of Woolwich (now resigned)
Don Smith**	City of Cambridge
Bryan Stortz	Region of Waterloo Corporate Communications
Marg Verbeek	Region of Waterloo Emergency Measures
Henry Walser	Henry Walser Funeral Home Ltd.

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individuals for their contributions:

Chief Terry Allen	City of Cambridge
Tim Anderson	City of Waterloo
George Barnes	City of Cambridge
Wayne Coughlin	St. Mary's General Hospital
Chief John de Hooge	City of Waterloo
Superintendent Pat Dietrich	Waterloo Regional Police Service
Steve Heldman	City of Waterloo

Rick Kennedy	Cambridge Central Ambulance Communications Centre
Ed Kovacs	City of Cambridge
Rod Kruger	Township of Woolwich
Perry Lee	Waterloo Regional Police Service
Victor Leung	Cambridge Memorial Hospital
Roger Mayo	Emergency Medical Services
Randy Miller	Township of Woolwich
Kevin Petendra	Emergency Medical Services
Monty Steenson	Central Ontario Removal Service

Crisis Communications Working Group

<i>Member</i>	<i>Organization</i>
Margaret Coleman	Waterloo Region District School Board
Olaf Heinzl	Waterloo Regional Police Service
Nancy Hewat	Grand River Hospital
Michael May	City of Kitchener
Patti McKague	City of Waterloo
Lu-Ann Procter**	Region of Waterloo Public Health
Victoria Raab	St. Mary's General Hospital
Beth Rowland	Region of Waterloo Corporate Communications
John Sawicki	Conestoga College
Chris Sellers	Cambridge Memorial Hospital
John Shewchuk	Waterloo Catholic District School Board
Bryan Stortz*	Region of Waterloo Corporate Communications
Michael Strickland	University of Waterloo
Jacqui Tam	Wilfrid Laurier University

*Chair **Vice-Chair

Region of Waterloo Public Health would also like to thank the following individual for their contributions:

Greg Beselaere	St. Mary's General Hospital
----------------	-----------------------------

Surveillance, Public Health Measures and Mass Vaccination Working Groups

Region of Waterloo Public Health would also like to thank the following staff for their contributions to the Surveillance, Public Health Measures and Mass Vaccination chapters:

Naideen Bailey
Jennifer Cutler
Mary Horne
Barbara-May Hutchison
Lesley Rintche
Cathy Tassone
Dr. Hsiu-Li Wang
Samantha Wilson-Clark (now resigned)
Tim Zehr

ABBREVIATIONS

Abbreviation	Name
AEFI	Adverse Events Following Immunization
AHSSG	Acute Health Services Sub-group
BIOS	Biological Inventory and Order System
CCAC	Cambridge Central Ambulance Communications Centre
CCG	Communications Control Group
CCWG	Crisis Communications Working Group
CDC	Centers for Disease Control and Prevention (US)
CEMC	Community Emergency Management Coordinators
CHC	Community Health Centres
CHSSG	Community Health Services Sub-group
CICG	Critical Infrastructure Control Group
CMH	Cambridge Memorial Hospital
CMHA	Canadian Mental Health Association
CMOH	Chief Medical Officer of Health
CPIP	Canadian Pandemic Influenza Plan
CPIPP	Community Pandemic Influenza Preparedness Plan
CSCG	Community Support Control Group
CSWG	Community Support Working Group
EMO	Emergency Management Ontario (Ministry of Community Safety and Correctional Services)
EMS	Emergency Medical Services
EMU	Emergency Management Unit (Ministry of Health and Long-Term Care)
EMWG	Emergency Management Working Group
ESS	Emergency Social Services
ESWG	Equipment and Supplies Working Group
F&CS	Family & Children's Services of the Waterloo Region
FD	Fire Department
Flu Centre	Influenza Assessment, Treatment and Referral Centre
FRI	Febrile Respiratory Illness
GRH	Grand River Hospital
HCW	Health Care Workers

Abbreviation	Name
HPPA	<i>Health Protection and Promotion Act</i>
HSCG	Health Sector Control Group
HSWG	Health Services Working Group
ICU	Intensive Care Unit
ILI	Influenza like illness
IMS	Incident Management System
iPHIS	Integrated Public Health Information System
IV	Intravenous
LTC	Long-term care
MCSCS	Ministry of Community Safety and Correctional Services
MFIPPA	<i>Municipal Freedom of Information and Protection of Privacy Act</i>
MOH	Medical Officer of Health
MOHLTC	Ministry of Health and Long-Term Care
NACI	National Advisory Committee on Immunization
OHPIP	Ontario Health Plan for an Influenza Pandemic
OHS	Occupational Health & Safety
OHSRWG	Occupational Health & Safety and Human Resources Working Group
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
PCPIP	Provincial Coordination Plan for an Influenza Pandemic
PEOC	Provincial Emergency Operations Centre
P/F/A	Police/Fire/Ambulance
PHAC	Public Health Agency of Canada
PHIPA	<i>Personal Health Information Protection Act</i>
PHSG	Public Health Support Group
PIC	Pandemic Influenza Committee (Federal)
PIDAC	Provincial Infectious Diseases Advisory Committee
PPE	Personal protective equipment
PSEPC	Public Safety and Emergency Preparedness Canada
REOC	Regional Emergency Operations Centre
REPAC	Regional Emergency Planning Advisory Committee
RoWPH	Region of Waterloo Public Health
RPCG	Regional Pandemic Control Group

Abbreviation	Name
SARS	Severe Acute Respiratory Syndrome
SMGH	St. Mary's General Hospital
SSERP	Social Services Emergency Response Plan
UIIP	Universal Influenza Immunization Program
VCC	Volunteer Coordination Centre
VSA	Vital Signs Absent
Web EOC	Web Emergency Operations Centre
WHO	World Health Organization
WRPS	Waterloo Regional Police Service
WSIB	Workplace Safety & Insurance Board
WWCCAC	Waterloo Wellington Community Care Access Centre

COMPONENTS OF THE PLAN

The Community Pandemic Influenza Preparedness Plan (CPIPP) is organized into five parts and 18 chapters.

Part I: Planning Framework

- Chapter 1 **Introduction** briefly introduces the CPIPP and outlines the planning approach adopted by Region of Waterloo Public Health and its community partners.
- Chapter 2 **Background and Context for Planning** provides basic information about influenza and pandemics, summarizes the impact that an influenza pandemic might have on Waterloo Region, describes the phases of an influenza pandemic, and highlights the planning and legislative authority pertaining to influenza pandemic planning, response and recovery efforts.
- Chapter 3 **Goals, Assumptions, Guiding Principles and Ethical Framework for Decision Making** sets out the goals, assumptions, and guiding principles that decision-makers will adhere to when planning for, responding to, and recovering from a pandemic event. The chapter also outlines the ethical framework that forms (or will form) the basis of Waterloo Region’s planning, response and recovery efforts.
- Chapter 4 **Responding to an Influenza Pandemic** outlines the roles and responsibilities of the various levels of government, and how the response and recovery efforts in Waterloo Region will be coordinated. It also describes how various levels of government and sectors will collaborate.

Part II: Region of Waterloo Public Health Response Tools and Guidelines

- Chapter 5 **Surveillance** provides details on the surveillance activities for each pandemic phase by the location where surveillance data is expected to be collected (in Waterloo Region). Where possible, the rationale for collecting (or not collecting data) is provided.
- Chapter 6 **Public Health Measures** highlights the various strategies that Region of Waterloo Public Health might implement to reduce the transmission of influenza during a pandemic, including their trigger points and the rationale for adopting the measure. A list of measures that will not be adopted is also presented.
- Chapter 7 **Antiviral Procurement, Distribution and Use** describes the classes of antiviral drugs and the current national strategy for their use. The chapter also presents planning considerations for antiviral distribution in Waterloo Region during a pandemic.
- Chapter 8 **Mass Immunization** sets out the policies for vaccine supply and distribution. The chapter also presents how Region of Waterloo Public Health will coordinate mass immunization clinics once a vaccine becomes available.

Part III: Health and Support Services during an Influenza Pandemic

- Chapter 9 **Health Services** describes how Waterloo Region’s health care system (both community and acute care services) will be structured during an influenza pandemic in order to manage demand for service. The chapter also outlines a patient flow process (how individuals/families will access health care during a pandemic).
- Chapter 10 **Community Support Services** outlines the community support services that will be provided during an influenza pandemic and what populations may require these services. The chapter begins to identify organizations that will be partially responsible for the provision of these services and how the sector’s response efforts will be coordinated.
- Chapter 11 **Emergency Services** highlights the role of, and coordination between, emergency services (police, fire, ambulance) during an influenza pandemic.

Part IV: Health Care Sector Response Tools and Guidelines

- Chapter 12 **Equipment and Supplies** describes the steps organizations will need to take to ensure they have an adequate supply of equipment and supplies during a pandemic.
- Chapter 13 **Infection Prevention and Control** provides general information related to infection prevention and control precautions, and guidelines for proper cleaning of equipment and disposing of waste. The chapter also provides infection prevention and control guidance for a range of healthcare settings.
- Chapter 14 **Health Human Resources** identifies several planning considerations for health human resource professionals.
- Chapter 15 **Psychosocial Supports for Healthcare Workers** identifies relevant psychosocial support issues that human resources and business continuity planners should consider when creating pandemic-specific support mechanisms for staff.

Part V: Municipal Services Response Tools and Guidelines

- Chapter 16 **Maintaining Municipal Critical Infrastructure** presents a list of critical infrastructure and functions that providers will work to maintain during an influenza pandemic. The chapter also outlines how infrastructure providers will coordinate their response efforts.
- Chapter 17 **Planning for a Surge in Natural Deaths** outlines a strategy that highlights the process and responsibilities for the proper screening, recognition, reporting of and disposition of human remains.

Chapter 18 **Crisis Communications** highlights key audiences/stakeholders, messages and communication tools that will be used to provide effective crisis communications during a pandemic. It will also identify how organizations involved with the response effort will coordinate the dissemination of information. The information needs of both internal and external audiences are considered.

EXECUTIVE SUMMARY

The Community Pandemic Influenza Preparedness Plan (CPIPP) describes how Region of Waterloo Public Health, in collaboration with community stakeholders, will respond to an influenza pandemic. Following from the recommendations and guidelines set forth in the Ontario Health Plan for an Influenza Pandemic, this document presents guidelines, tools and strategies that will help guide organizations through the response and recovery phases of a pandemic. The CPIPP also clarifies how local resources will be mobilized during an event, and who is responsible for the majority of these tasks.

Influenza (commonly known as “the flu”) is a contagious virus that circulates on a yearly basis causing seasonal outbreaks of respiratory illness. Most healthy individuals are able to recover from the illness, but certain segments of the population — such as older people, young children, and people with certain health conditions — may experience further complications. In some instances, the disease can be fatal. As a result, influenza is an ongoing public health threat.

Public health experts warn about the public health risk associated with the emergence of a new human influenza virus. An influenza pandemic would occur if a new virus emerges that is easily transmitted from person to person. Since the population will not be immune to the new virus, it will affect more people and cause higher rates of morbidity (illness) and mortality (death). A pandemic may strain health care, community support, municipal and emergency response resources, and may also result in significant economic and social disruption across Waterloo Region. As a result, Region of Waterloo Public Health and its community stakeholders recognize the benefit of developing mitigation, preparedness, response, and recovery measures that can be activated before, during, and after an influenza pandemic. Appropriate pandemic planning can:

- Reduce the number of people infected;
- Minimize the level of illness;
- Decrease the number of deaths; and,
- Reduce the extent of economic and social disruption.

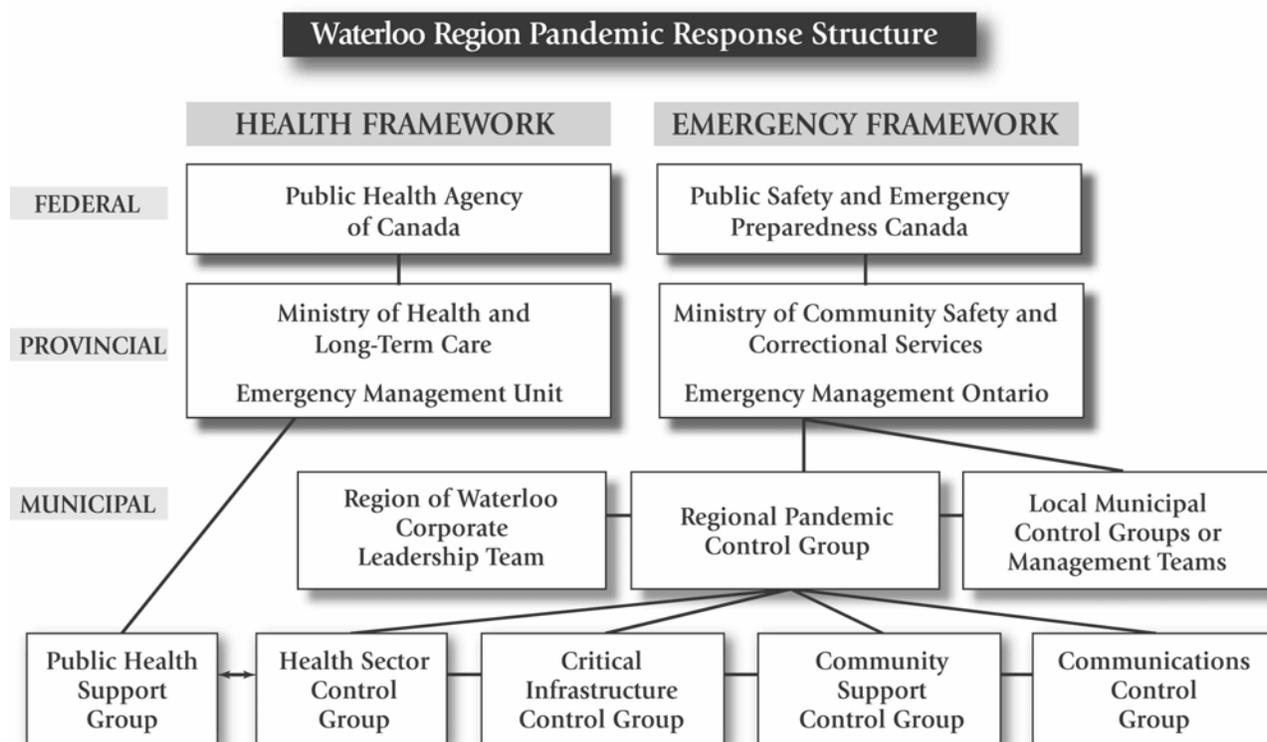
The authority for local public health units and local governments to plan for a pandemic event is outlined in both the Canadian Pandemic Influenza Plan (CPIP) and Ontario Health Plan for an Influenza Pandemic (OHPIP). In addition, several pieces of legislation, such as the *Health Protection and Promotion Act* and *Emergency Management and Civil Protection Act* provide the legal authority for plan implementation.

To ensure Waterloo Region mounts an effective, coordinated and transparent response effort planners developed a common framework — comprised of goals, planning assumptions and guiding principles. This framework is to be used by all individuals and organizations involved in the planning, response and recovery efforts. Given the number of ethical dilemmas that will likely arise during a pandemic, the CPIPP also includes an Ethical Framework for Decision Making as presented in the OHPIP. All planning, response and recovery efforts will be measured against this framework.

Collaboration among and between all levels of government, community stakeholders and other private and not-for-profit organizations is also essential. To ensure Waterloo Region’s efforts are coordinated, a Regional Pandemic Control Group (RPCG) will be established. The RPCG, which will have representation from all local municipalities and emergency response organizations will guide and oversee the broader response and recovery efforts in Waterloo

Region. This includes coordination, decision-making and communications for functions that are common to all municipalities or regional in scale. Local municipalities will maintain responsibility for functions that are specific to their municipality.

In addition, several sector-specific coordinating bodies (referred to as “sector control groups”) will be established to coordinate decision-making and the provision of resources for their respective sectors. Control groups will be established for the health, community support, communication and critical infrastructure sectors. These control groups will also: ensure pertinent information and key decisions are shared with the RPCG; provide advice and make requests to the RPCG; and, assist the RPCG in coordinating the overall response efforts. The Waterloo Region Pandemic Response Structure is presented below:



A business cycle, outlining standard meeting times is included in the plan. This cycle will facilitate the sharing of information between the RPCG, the sector control groups and various levels of government.

In terms of the response efforts, Region of Waterloo Public Health will be responsible for four key functions:

- Surveillance;
- Public Health Measures;
- Antiviral Procurement, Distribution and Use; and,
- Mass Immunization.

Surveillance is the process by which public health monitors illness and disease. It involves the collection, analysis, interpretation and dissemination of data (about illness and disease) within communities. In Waterloo Region, data will be collected at several locations, including hospitals, Influenza Assessment, Referral and Treatment Centres (Flu Centres) and other

locations at various pandemic stages. Decision makers at Region of Waterloo Public Health, the Health Sector Control Group and Regional Pandemic Control Group will use this data to make informed decisions regarding the response and recovery efforts.

During a pandemic, Region of Waterloo Public Health may implement various public health measures which are strategies aimed at reducing the spread of a disease in a community. These measures can be individual-based or community-based and will depend on the characteristics of the circulating virus. These measures include: case and contact management, encouraging social distancing (avoiding contact with others as much as possible), cancelling certain public gatherings, and closing schools and other public facilities. When making decisions about public health measures, the Medical Officer of Health (MOH) (or designate) will attempt to be consistent with neighbouring jurisdictions and directives provided by the Chief Medical Officer of Health (CMOH) for the province of Ontario. When considering the implementation of a measure, the CMOH and MOH have an ethical duty to use the least coercive means possible and will balance the benefit to the community versus the imposition on individual liberty.

Antivirals are anti-influenza drugs that can be used to treat and prevent influenza. As a disease management strategy, the federal and provincial governments are purchasing a limited stockpile of these antivirals. These drugs will be used in a targeted manner, primarily to treat individuals who are ill. This will likely occur at hospitals, Flu Centres and Convalescent Care Centres. In Waterloo Region, Region of Waterloo Public Health will be responsible for the distribution of antivirals and ensuring directions regarding their use are followed. Antivirals are not a substitute or replacement for other preventative measures such as social distancing and hand hygiene.

Mass immunization involves the mobilization of public health resources to provide vaccines to large numbers of people. As part of its disease management strategy, the Government of Canada is working to secure vaccine for the entire population, but in the early stages of a pandemic supply will be limited. Therefore, the federal government identified priority groups to determine the order in which the population will receive pandemic vaccine. Region of Waterloo Public Health will follow national and provincial guidelines pertaining to these priority groups. When large quantities are available, Region of Waterloo Public Health will implement its mass immunization plan to immunize Waterloo Region's citizens in a timely and efficient manner.

Even if Waterloo Region is faced with only a mild or moderate pandemic, the health care and its related support systems will have difficulty coping with the surge in the demand for service. Primary care (physician) offices will not be able to cope with the number of patients requiring care, and hospitals will find it difficult to sustain their operations given the increase in patient visits to emergency departments. Emergency response organizations (police/fire/ambulance) may also find it difficult to deal with the surge in 9-1-1 calls. Community support organizations may also see an increase in demand for service if individuals do not have support networks and if there is significant societal disruption and/or loss of life. Despite these potential challenges, the majority of individuals that contract influenza will not require these services, and will be able to manage with self-care materials and/or support from their family, friends and/or neighbours. As a result of increased demands in the health system, the current patient flow process (or how individuals and families access the health care and its related support system) will be modified.

During a pandemic, community health service providers will work to triage non-severe cases of pandemic influenza away from acute care facilities (hospitals). Once the pandemic arrives, a self-screening tool will be widely distributed. This tool will work to triage individuals to the appropriate resource with only the most severe cases being referred to the hospital. In addition,

Region of Waterloo Public Health will operate a general information line that will provide basic health screening, forward self-care materials, answer basic questions and refer callers to the appropriate resources as required.

Following from provincial guidelines, Influenza Assessment, Treatment and Referral Centres (Flu Centres) will also be established. All individuals with flu-like symptoms requiring care (including individuals that present at hospitals and primary care [physician] offices) will be directed to the Flu Centres. These centres will assess each patient and:

- Send them home with self-care materials and/or a referral to community support services;
- Provide treatment (if antivirals are available);
- Triage to a Convalescent Care Centre; and/or,
- Triage to an acute care facility (severe cases only).

It is anticipated between six and 10 Flu Centres will be established in Waterloo Region. These will likely be located in secondary schools throughout the region. The final number established (and their locations), and their opening date will depend on characteristics of the circulating strain, how it progresses through the community and available resources.

Convalescent Care Centres are facilities that will provide patient observation, personal care and hydration services. These centres will support individuals that do not have a home to return to or are unable to obtain the care they require at home (e.g. ill patients who live alone and do not have friends, family and/or neighbours to care for them). The final number established (and their location) will depend on characteristics of the circulating strain and available resources.

An Advisory Committee will work to finalize all operational and management details related to Flu Centres and Convalescent Care Centres.

During a pandemic, services in acute (hospital) settings will be deferred. Service deferral will largely be a result of the need to focus acute care efforts on priority services for both influenza and non-influenza cases, while also limiting service delivery due to reduced staffing levels caused by healthcare worker absenteeism. While the activation of community health and support measures will hopefully lessen the impact the patient surge will have on already-strained acute care resources, acute care facilities in Waterloo Region will use specific influenza patient screening tools, order sheets and disposition algorithms. These tools will be used by health care workers to determine admission requirements, and to streamline the treatment of severe cases.

To support the health care system, the community support sector will work to provide support to individuals and families who would be able to recover from the circulating strain of pandemic influenza while staying at home, but do not have the necessary networks to support them during their illness. Given resource and other constraints, community support services will be modified and provided to individuals who are severely ill and do not have the necessary networks to support them during their illness. Screening tools will be developed and subsequently used to determine who will receive supports. Certain populations have been pre-identified as requiring these novel support services and response efforts will account for these needs.

Given the expected increase in 9-1-1 calls, emergency responders may not respond as they normally would. Screening tools will be developed and used to triage calls accordingly. It is anticipated that all non-serious calls will be triaged to other services (general information line,

Telehealth, Flu Centres, etc.). In addition, Emergency Medical Services (EMS) will modify its response mechanisms and ambulances will only be dispatched to calls where the individual is seriously ill. In other circumstances, a single paramedic (in a response vehicle) may be dispatched; the paramedic would then complete the necessary assessment and screening. The Waterloo Regional Police Service and local municipal Fire Departments will not attend flu-related calls unless it meets certain criteria (i.e. a serious emergency) and if resources permit.

To ensure the successful operation of the health care system several other resources, planners developed tools and guidelines. This includes:

- Infection prevention and control guidelines regarding the use of personal protective equipment (what equipment and in what circumstances), proper cleaning of equipment and supplies and disposal of waste. The chapter provides guidance for a range of healthcare settings.
- Recommendations for health care and emergency response organizations pertaining to the stockpiling, distribution and maintenance of equipment and supplies.
- Guidelines related to health human resources and psychosocial supports for healthcare organizations and workers.

Maintaining municipal critical infrastructure will also be vital to ensure the successful operation of the health care and related support systems. Working to maintain these essential services will also minimize societal disruption. To achieve this objective the primary infrastructure providers in Waterloo Region developed a list of critical infrastructure and functions they will work to maintain during a pandemic. A draft mutual assistance agreement between all providers outlines the conditions related to the sharing and provision of personnel, services, equipment or material between organizations.

Collaboration between several organizations will be required to manage the surge in natural deaths, particularly in the funeral home sector. This plan presents a strategy to ensure the proper screening, recognition, reporting of and disposition of human remains. Operational details will be finalized in subsequent planning stages.

The success of all response and recovery tools, guidelines, recommendations and strategies will depend on effective communication between organizations and in communicating key messages to the general public. These messages will educate the general public, health care workers and emergency responders about:

- Responding appropriately to the outbreak;
- Risks and perception of risks associated with the pandemic;
- Where to obtain information and supports; and,
- Appropriate infection prevention and control and public health measures.

During a pandemic, communications officials will work with the Regional Pandemic Control Group and the other sector control groups to devise key messages and ensure they are communicated to the public. Several communication vehicles have been identified and these will be the primary means of distributing essential information. There will also be a need to develop and implement a separate strategy to communicate information to vulnerable populations.

The CPIP is a living document. The plan will be reviewed and revised on an ongoing basis to incorporate provincial updates and directives, and to reflect current knowledge and best practices.

PART I:
PLANNING FRAMEWORK

1 INTRODUCTION

The Community Pandemic Influenza Preparedness Plan (CPIPP) describes how Region of Waterloo Public Health, in collaboration with community stakeholders¹, will respond to an influenza pandemic. Following from the recommendations and guidelines set forth in the *Ontario Health Plan for an Influenza Pandemic* (OHPIP 2006), this document presents guidelines, tools and strategies that will help guide organizations through the response and recovery phases of a pandemic. The CPIPP also clarifies how local resources will be mobilized during an event, and who is responsible for the majority of these tasks. Each chapter is written so that it can be utilized on a “stand alone” basis.

Some of the chapters outline response mechanisms while others present tools that can be used in subsequent planning stages. An essential goal of the planning process is to ensure that the CPIPP provides enough direction to ensure a consistent and coordinated response to an influenza pandemic, while giving community stakeholders and other organizations the flexibility to respond to different scenarios, and other major incidents that may arise during a pandemic event. All organizations involved in the response and recovery efforts are committed to follow the guidelines contained in this document, and to work to ensure Waterloo Region’s response efforts are both coordinated and effective.

1.1 Planning Approach

The Community Pandemic Influenza Preparedness Plan (CPIPP) is being developed in stages. The first stage, completed in April 2006, produced the Community Pandemic Influenza Preparedness Plan: Strategic Planning Guide and Operational Framework. This framework document established goals, assumptions and principles pertaining to the community response and recovery effort, and outlined a process to further develop the plan.

The second planning stage, which commenced in May 2006, involved the establishment of a new Steering Committee and six working groups. Over the past seven months these groups worked to develop the various preparedness and response tools, guidelines and strategies that can be used by local governments and organizations during an influenza pandemic. All of these tools have been reconciled into this document, the Community Pandemic Influenza Preparedness Plan (CPIPP).

The CPIPP (and its related documents/tools) will be reviewed and revised on an ongoing basis to incorporate provincial updates and directives, and to reflect current knowledge and best practices. A Steering Committee will continue to be responsible for directing pandemic planning efforts in Waterloo Region, which includes revising the CPIPP and its protocols/procedures.

The CPIPP is focused on planning for a specific health threat: an influenza pandemic. As this threat will constitute an emergency, planning is being carried out in cooperation with emergency management specialists and community stakeholders. The CPIPP is an Annex to the Region of Waterloo Emergency Response Plan.

¹ Community stakeholder refers to any public, not-for-profit or private organization involved in the (CPIPP) pandemic planning, response and recovery process.

2 BACKGROUND AND CONTEXT FOR PLANNING

2.1 What is Influenza?

Influenza (commonly known as “the flu”) is a contagious virus that circulates on a yearly basis causing seasonal outbreaks of respiratory illness. People who contract the flu may experience several symptoms including: fever, headache, chills, muscle aches, physical exhaustion, cough, sore throat, and a runny or stuffy nose. Symptoms can last for several weeks. Most healthy individuals are able to recover from the illness, but certain segments of the population — such as older people, young children, and people with certain health conditions — may experience further complications. In some instances, the disease can be fatal. As a result, influenza is an ongoing public health threat.

The influenza virus can be spread from direct (person-to-person) and indirect contact. When an individual coughs or sneezes, she/he release droplets that can travel up to one metre. Influenza is directly transmitted when these droplets come into contact with the eyes, nose, and/or mouth of another person. Influenza is indirectly transmitted when people touch contaminated hands, surfaces or objects. As the virus can live on nonporous surfaces for up to 48 hours, touching surfaces such as doorknobs, countertops, toys, or utensils previously used or handled by others carrying the virus is a common source of infection. In addition, shaking hands with an infected individual who has droplet secretions on their hand can be another source of infection.

People who become infected are able to transmit the virus 24 hours before, and up to three to five days after symptoms appear. Children and some adults may be infectious for seven days after symptoms appear.

2.2 What is an Influenza Pandemic?

The influenza virus experiences major changes in composition. An influenza pandemic (or “pandemic”) occurs when a strain of the influenza virus:

- Changes in composition;
- Becomes highly contagious;
- Spreads easily from person-to-person; and,
- Moves rapidly around the world.

Since the population is not immune to the new virus, it will affect more people, and cause higher rates of morbidity (illness) and mortality (death).

There were three influenza pandemics during the 20th century (1918, 1957, and 1968). The 1918 pandemic, referred to as the “Spanish Flu,” killed 20 to 50 million people worldwide. While no one can predict when the next pandemic will occur, public health experts have warned that an influenza pandemic is overdue.

2.3 Pandemic Planning Periods and Phases

In 1999 (revised in 2005), the World Health Organization (WHO) developed a pandemic classification system. The WHO phases are meant to guide planning efforts, and are being used by all levels of government (federal, provincial, and municipal level) to identify which phase is occurring internationally. The 2005 WHO pandemic periods and phases are presented in Table 1.

Table 1: WHO Pandemic Periods and Phases

Period	Phase	Description
Interpandemic Period	Phase 1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk* of human infection is considered to be low.
	Phase 2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.
Pandemic Alert Period	Phase 3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.
	Phase 4	Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.
	Phase 5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).
Pandemic Period	Phase 6	Increased and sustained transmission in general population.
Post-pandemic Period	Recovery	Return to interpandemic period

While the WHO period phases represent the international activity level of new virus subtypes, it may not reflect the level of activity in Canada, especially during the pandemic alert and pandemic periods. To guide pandemic planning, response and recovery efforts in Canada, the Public Health Agenda of Canada developed a numbering system to highlight the activity level within Canada:

- 0 – No activity observed in Canada
- 1 – Single case(s) observed in Canada (i.e. no clusters)
- 2 – Localized or widespread activity observed in Canada

These activity levels will be used with the WHO phase number to indicate the activity level within Canada (refer to Table 2).

Table 2: Example of WHO and Canadian Pandemic Activity Levels

WHO Phase	CAN Phase	WHO/CAN Phase	Description
6	0	6.0	Outside Canada increase and sustained transmission in the general population has been observed. No cases have been detected in Canada.
6	1	6.1	Single human case(s) with the pandemic virus detected in Canada. No cluster(s) identified in Canada.
6	2	6.2	Localized or widespread pandemic activity observed in the Canadian population.

Source: Adapted from the Ontario Health Plan for an Influenza Pandemic (2006) and Canadian Influenza Pandemic Plan (2006).

2.4 Declaring the Start of an Influenza Pandemic

The WHO will declare the beginning of a pandemic internationally, while the Public Health Agency of Canada and Ministry of Health and Long-Term Care (MOHLTC) will declare the beginning of the pandemic for Canada and Ontario respectively.

2.5 What is the Potential Impact of an Influenza Pandemic on Waterloo Region?

It is difficult to predict the exact impact an influenza pandemic will have on Waterloo Region. However, it is recognized there will be a severe strain on health care services as increasingly high numbers of residents will seek medical care. To assist global planning efforts, the Centers for Disease Control and Prevention (CDC) in the United States (US) developed a model that allows planners to predict a range of estimates for the total impact of an influenza pandemic for any given region, particularly for health care services. The numbers, which are not a certainty, are designed to assist governments, organizations, and agencies in their planning efforts. To aid planners at the local level, the MOHLTC used the US CDC model to estimate the number of deaths, hospitalizations, and outpatient visits in Waterloo Region during a pandemic event. These numbers are provided in Table 3.

The attack rates describe the proportion of the population that will be infected over the multiple waves of influenza that usually occur during a pandemic.² The varying attack rates represent a moderate (15%) and severe (35%) pandemic event. As the attack rates reached upwards of 35% during previous pandemics, this attack rate is being used for planning purposes. Assuming a 35% attack rate, Waterloo Region will see between 70,000 and 130,000 outpatient visits, between 681 and 2,489 hospitalizations, and between 236 and 743 deaths during an influenza pandemic. Based on provincial guidelines, Region of Waterloo Public Health is using a moderate to severe scenario to ensure advanced problem solving for some of our biggest potential challenges.

These numbers are rough estimates. Actual numbers will vary according to the characteristics of the pandemic influenza virus that circulates. It is important to note that approximately 95% of those who become ill will not need traditional medical care. With additional support (such as

² For example, a 15% attack rate means that over the entire course of a pandemic, approximately 15% of the population would be required to take a half-day off work due to illness.

assistance from friends, family and neighbours) it is anticipated that these individuals will be able to recover at home with self-care materials and guidelines.

Table 3: Estimated Impact of an Influenza Pandemic in Waterloo Region by Attack Rate

Outcome	Attack Rate 15 %			Attack Rate 25 %			Attack Rate 35%		
	Min	Most likely	Max	Min	Most likely	Max	Min	Most likely	Max
Deaths	101	187	318	168	312	530	236	437	743
Hospitalizations	269	845	1,066	486	1,407	1,778	681	1,970	2,489
Outpatient Visits	30,089	38,854	55,561	50,148	64,754	92,601	70,208	90,657	129,640

Notes: Based on a 2005 population estimate of 485,248; the numbers reflect the impact of the entire duration of the pandemic (multiple waves); the numbers exclude individuals that do not feel well, but are able to carry on with their daily activities.

Source: Ontario Health Plan for an Influenza Pandemic (2006), based on the FluAid model developed by the United States Centers for Disease Control and Prevention.

2.6 Why is Waterloo Region Planning for an Influenza Pandemic?

An influenza pandemic will place a significant strain on the health care, community support, municipal and emergency response sectors, and could result in significant economic and social disruption across Waterloo Region.

Appropriate pandemic planning can:

- Reduce the number of people infected;
- Minimize the level of illness;
- Decrease the number of deaths; and,
- Reduce the extent of economic and social disruption.

As a result, Region of Waterloo Public Health and its community stakeholders recognize the benefit of developing mitigation, preparedness, response, and recovery measures that can be activated before, during, and after an influenza pandemic.

2.7 Planning Authority

Authority for planning for a pandemic event is outlined in both the Canadian Pandemic Influenza Plan (CPIP) and Ontario Health Plan for an Influenza Pandemic (OHPIP). According to the CPIP (p. Introduction - 4):

“Local public health authorities are responsible for planning the local response to an influenza pandemic with direction from both the provincial/territorial and federal level. This involves liaising with local partners (e.g. emergency responders, hospitals, mortuary

services) in advance of a pandemic to facilitate a coordinated response when pandemic influenza strikes in the community.”

The OHPIP provides further direction by stating local governments, “... and local public health authorities are responsible for coordinating the local to response to an influenza pandemic...” (p. 2-3).

Given the direction provided by senior levels of government, Region of Waterloo Public Health, in consultation with its community stakeholders, is planning the local response to an influenza pandemic.

2.8 Legislative Authority

During a pandemic, individuals and institutions responsible for managing the response will require the legal authority to implement pandemic plans. During the planning process and following the declaration of a pandemic, the Region of Waterloo will work within the province’s legal framework that attempts to balance the rights of individuals, the rights of workers to work in a safe environment and the responsibility to protect the public from harm. All planning efforts are being developed in the context of the following legislation:

Emergency Management and Civil Protection Act, R.S.O. 1990, c.E.9 — Establishes the requirements for emergency management programs and emergency plans in the province of Ontario. Granted Royal Assent in June 2006, the *Act* expands the scope of power provided to the Lieutenant Governor in Council and the Premier to deal with emergencies in Ontario.

The *Act* permits the Premier (or designate) to issue emergency orders which can be used to “promote the public good by protecting the health, safety and welfare of the people of Ontario in times of declared emergencies in a manner that is subject to the Canadian Charter of Rights and Freedoms.” These orders can be used for a variety of items including, but not limited to: regulate the price of goods; close businesses, schools, or other establishments or institutions; and, make arrangements for the adequate care and protection of individuals and property.

An order is withdrawn 14 days after it is issued unless it is cancelled. Emergency orders can also be extended. Emergency orders will prevail over every statute with the exception of the *Occupational Health and Safety Act*.

Locally, Regional By-Law 05-053 establishes the rationale and legal authority for the Emergency Management Program, which includes the Region of Waterloo Emergency Response Plan.

Health Protection and Promotion Act, R.S.O. 1990, c.H.7 (*HPPA*) — Provides the legal authority for a public health response to a pandemic threat. Several sections of the *HPPA* also give the local Medical Officer of Health (MOH), or his/her designate, the authority to take any actions necessary to respond to a health emergency. These include, but are not limited to:

- Section 13 — grants the authority to require a person and/or groups of persons to take or refrain from taking any action which is determined by the MOH to be a health hazard; and,

- Section 22 — grants the MOH the authority to issue an order under prescribed conditions to control a communicable disease outbreak. This may include the isolation of individuals.

The *HPPA* also outlines the minimum level of public health programs and services that Public Health must provide, including control of infectious and reportable diseases, health promotion, health protection, and disease prevention.

Occupational Health and Safety Act, R.S.O. 1990, c.C.37 — Enforced by the Ministry of Labour, the *Act* states that all employers have the duty to take all reasonable precautions to protect the health and safety of workers.

Order-in-Council 167/2004 (February 2, 2004) — Identifies the Minister of Health and Long-Term Care as responsible for two areas in formulating emergency plans: human health disease and epidemics; and, the provision of health services during an emergency (e.g. floods, ice storm).

Quarantine Act — Came into force on December 12, 2006. The updated *Act* expands existing legislation to public health authorities. New provisions include the ability to divert an aircraft to an alternate landing site, to designate quarantine facilities at any location in Canada, and to prevent entry to Canada of travellers that represent an imminent and severe public health risk. It also includes measures for collecting and disclosing personal information if it is necessary to prevent the spread of a communicable disease.

Coroners Act, R.S.O. 1990, C.37 — Outlines the conditions in which the Coroner must be notified about a death, and the general powers of the Coroner.

3 GOALS, ASSUMPTIONS, PRINCIPLES AND ETHICAL FRAMEWORK FOR DECISION MAKING

3.1 Goals

The goals of pandemic planning and response in Waterloo Region are identical to the goals outlined in the national and provincial plans:

1. To reduce morbidity (illness) and mortality (death); and,
2. To minimize societal and economic disruption.

3.2 Assumptions

It is difficult, if not impossible, to predict the exact impact a pandemic event will have on Waterloo Region, and certain assumptions need to be made to facilitate the planning process. For planning purposes, planners adopted and revised the assumptions outlined in the federal and provincial pandemic influenza plans for inclusion in Waterloo Region's plan. These include:

- Pandemic influenza will result from a new subtype of influenza A; the new strain is likely to initially appear in Asia;
- The WHO will identify the circulating pandemic strain;
- It is likely there will be little lead time (no more than three months) from when a pandemic is first declared and when the strain is present in Waterloo Region;
- The federal and provincial governments will declare a state of emergency for Canada and Ontario respectively;
- A pandemic usually spreads in two or more waves over a 12 to 18 month time frame. A second wave may occur within three to nine months of the initial wave and may cause more serious morbidity and mortality than the first. The length of each wave is likely to be six to eight weeks;
- The influenza pandemic will be more severe than seasonal influenza. The attack rate could be anywhere from 15% - 35%;
- The impact of an influenza pandemic is likely to be intense and sustained, and could cause significant social and economic disruption. As a result, it will not be "business as usual" when it comes to the provision of services in all sectors during a pandemic;
- Everyone will be susceptible during an influenza pandemic. Certain groups may be more at risk than others, but this will not be known until the circulating strain emerges;
- The impact of a pandemic on health services will be overwhelming as a result of:
 - Increased number of patients with influenza and its complications;
 - Increased needs for high dependency care;
 - Increased demands placed on health care workers (HCW);
 - Increased absentee rates for health care workers due to illness in themselves or family members;
 - A secondary burden on personal health caused by anxiety and bereavement;and,

- Logistical problems due to interruption of supplies, utilities, and transport as part of the general disruption caused by the pandemic.
- Care may be provided in alternative care settings by alternative HCW as health facilities would likely be overwhelmed by the influx of pandemic influenza patients;
- Some health care services will need to be curtailed or cancelled;
- The vast majority of people who do get sick with pandemic influenza will not require hospitalization. Most patients will be able to recover with some other form of assistance, or even self-care at home;
- While vaccine is the primary means of prevention of annual influenza, the pandemic influenza vaccine will not be available during the early stages of the pandemic. Therefore, plans for the first wave should assume a vaccine will not be available;
- Priorities for vaccination (as provided by the province) will be followed by Region of Waterloo Public Health;
- There will be increased demand for information regarding infection control guidelines and personal protection measures;
- Priorities for the distribution and use of antivirals (as provided by the province) will be followed by Region of Waterloo Public Health. The supply of antivirals will be limited; and,
- The CPIPP will be consistent with the Canadian Pandemic Influenza Plan, Ontario Health Plan for an Influenza Pandemic, and relevant health and emergency management legislation.

3.3 Guiding Principles

In light of these planning assumptions, effectively responding to the threat of an influenza pandemic will require a set of guiding principles, which provide direction to local government officials, community stakeholders, and other organizations as they develop operational and comprehensive pandemic influenza plans, protocols, and tools. Pandemic planning, thus, requires the following:

A Collaborative, Coordinated, and Flexible Plan for Response

A coordinated inter-agency plan will allow for a quick and effective response to a pandemic event. In order to collaboratively reach the CPIPP goals of reducing illness and minimizing societal and economic disruption, all government officials, community stakeholders, and organizations involved should work to develop a common response and emergency management strategy for all phases of the pandemic event.

Transparent Planning and Decision-Making Processes

A pandemic will require government officials, community stakeholders, and health care professionals to make difficult decisions. All decisions will need to be communicated in a timely, effective, and accessible manner. Decision-makers will also need to manage risks and the

perception of risks; the ethical framework for decision-making used by the province will guide the preparedness, response, and recovery efforts related to the pandemic (refer to Section 3.4).

Increased Surge Capacity in the Health Care Sector

An influenza pandemic will place severe strain on the health care sector. Hospitals, physicians' offices, and other health care facilities/organizations will find it difficult to cope with increased demand during a pandemic. The entire health care sector will be required to work together to increase surge capacity within their sectors, and to maintain a limited number of critical (non-influenza) services.

Community Mobilization

Most individuals who contract the pandemic virus will be able to recover without medical assistance, but may require symptom monitoring and/or supervision. Access to a well-organized community response and recovery effort will be essential in reducing societal disruption and alleviating some of the pressure on the health care sector during a pandemic (e.g. friend/family/neighbour support networks, community support, volunteer organizations' involvement in the response and recovery).

Effective Public Education and Communication Strategies

Awareness and education strategies are critical in all phases of a pandemic event to minimize societal disruptions. A comprehensive communications strategy involving key officials from all levels of government, community stakeholders, and the public are essential for an effective response.

Stakeholder Preparedness

All government departments and private and not-for-profit agencies need to be prepared for the implications of an influenza pandemic. All sectors in Waterloo Region should design and test service and/or business continuity plans to effectively manage the impacts of a pandemic such as staffing shortages, disruptions to supply chains, absenteeism, and continuity of key or critical (government) services.

Rationalization of Available Resources

As communities across the country will be dealing with the same event, resources will be limited. It will be incumbent on Waterloo Region to be self-sustaining during a pandemic event. Pandemic planners should ensure that critical resources/supplies are identified and procured prior to the pandemic.

3.4 Ethical Framework for Decision Making

During an influenza pandemic, decision-makers and frontline health care workers will have to make difficult decisions (e.g. reallocation of people and resources, levels of services to be provided). To ensure consistency, and to work from a common framework, the Steering Committee agreed to adopt the Ethical Framework for Decision Making as presented in the OHPIP and developed by Dr. Jennifer Gibson of the Joint Centre for Bioethics at the University of Toronto.

The community — members of the public, patients, and health care workers — are more likely to accept the difficult decisions if pandemic influenza decision-making processes are:

- **Open and transparent** — The process by which decisions are made must be open to scrutiny and the basis for decisions should be explained.
- **Reasonable** — Decisions should be based on reason (i.e. evidence, principles, values) and be made by people who are credible and accountable.
- **Inclusive** — Decisions should be made explicitly with stakeholder views in mind and stakeholders should have opportunities to be engaged in the decision-making process.
- **Responsive** — Decisions should be revisited and revised as new information emerges, and stakeholders should have opportunities to voice any concerns they have about decisions (i.e. dispute and complaint mechanisms).
- **Accountable** — There should be mechanisms to ensure that ethical decision-making is sustained throughout the pandemic.

Waterloo Region's response to pandemic influenza will be based on the following core ethical values, as outlined in the OHPIP.

Individual Liberty

Individual liberty (i.e. respect for autonomy) is a value enshrined in our laws and in health care practice. During a pandemic, it may be necessary to restrict individual liberty in order to protect the public from serious harm. Individual liberty can be preserved to the extent that the imposed limits and the reasons behind them are transparent. Restrictions to individual liberty will:

- Be proportional to the risk of public harm;
- Be necessary and relevant to protecting the public good;
- Employ the least restrictive means necessary to achieve public health and emergency management goals; and,
- Be applied without discrimination.

Protection of the Public from Harm

Region of Waterloo Public Health, in partnership with its municipal and local partners, has an obligation to protect the public from serious harm. To fulfill this obligation and minimize serious illness, death, and social/economic disruption, public health authorities³ may isolate people or use other containment strategies, require health care facilities to restrict public access to some areas, and/or recommend limiting some services (e.g. elective surgeries). For these protective measures to be effective, citizens must comply with them and understand the reasoning behind them. The ethical value of individual liberty is often in tension with the obligation to protect the public from harm; however, it is also in individuals' interests to serve the public good and minimize harm to others. When making decisions designed to protect the public from harm, Waterloo Region decision-makers and provincial authorities will:

³ Refers to provincial health authorities and Waterloo Region's Medical Officer of Health.

- Weigh the benefits of protecting the public from harm against the loss of liberty of some individuals (e.g. isolation);
- Ensure all stakeholders are aware of the medical and moral reasons for the measures, the benefits of complying, and the consequences of not complying; and,
- Establish mechanisms to review decisions as the situation changes and to address stakeholder concerns or complaints.

Proportionality

Restrictions on individual liberty and measures to protect the public from harm should not exceed the minimum required to address the actual level of risk or need in the community.

Waterloo Region decision-makers and provincial authorities will:

- Use the least restrictive or coercive measures possible when limiting or restricting liberties or entitlements; and,
- Use more coercive measures only in circumstances where less restrictive means have failed to achieve appropriate ends (i.e. public health).

Privacy⁴

Individuals have a right to privacy, including the privacy of their health information. During a pandemic, it may be necessary to override this right to protect the public from serious harm; however, to be consistent with the ethical principle of proportionality, Waterloo Region decision-makers and provincial authorities, will:

- Determine whether the good intended is significant enough to justify the potential harm of suspending privacy rights (e.g. potential stigmatization of individuals and communities);
- Require private information only if there are no less intrusive means to protect public health;
- Limit any disclosure to only that information required to achieve legitimate public health goals; and,
- Take steps to prevent stigmatization (e.g. public education to correct misperceptions about disease transmission).

Equity

All patients have an equal claim to receive the health care and support they need, and health care institutions are obligated to ensure sufficient supply of health services and materials. During a pandemic, difficult decisions may have to be made about who will receive antiviral medication and vaccinations, and which health services will be temporarily suspended. Depending on the extent of the pandemic, measures taken to contain the spread of disease may limit access to emergency or essential services. In these circumstances, Waterloo Region decision-makers and provincial authorities will:

⁴ Note: Where the CIPPP contains any reference to the collection, use, or disclosure of information or data, it is referring to non-identifiable information or data whenever possible. Any collection, use or disclosure of personal information will be done in compliance with governing legislation.

- Strive to preserve as much equity as possible between the needs of influenza patients and patients who need urgent treatment for other diseases; and,
- Establish fair decision-making processes/criteria.

Duty to Provide Care

Health care workers in Waterloo Region have an ethical duty to provide care and respond to suffering. During a pandemic, demands for care may overwhelm health care workers and their institutions, and create challenges related to resources, practice, liability, and workplace safety. Health care workers may have to weigh their duty to provide care against competing obligations (i.e. their own health, family and friends). When providers cannot provide appropriate care because of constraints caused by the pandemic, they may be faced with moral dilemmas. To support providers in their efforts to discharge their duty to provide care, Waterloo Region decision-makers will seek formal guidance from the provincial government as to how provincial authorities will:

- Work collaboratively with stakeholders, regulatory colleges, and labour associations to establish practice guidelines;
- Work collaboratively with stakeholders, including labour associations and unions, to establish fair dispute resolution processes;
- Strive to ensure the appropriate supports are in place (e.g. resources, supplies, equipment); and,
- Develop a mechanism for provider complaints and claims for work exemptions.

Reciprocity

Society has an ethical responsibility to support those who face a disproportionate burden in protecting the public good. During a pandemic, the greatest burden will fall on public health practitioners, other health care workers (i.e. first responders), patients, and their families. Health care workers will be asked to take on expanded duties. They may be exposed to greater risk in the workplace, suffer physical and emotional stress, and be isolated from peers and family. Individuals who are isolated may experience significant social, economic, and emotional burdens. Waterloo Region decision-makers and provincial authorities will:

- Take steps to ease the burdens of health care workers, patients, and patients' families.

Trust

Trust is an essential part of the relationship between government and citizens, between health care workers and patients, between organizations and their staff, between the public and health care workers, and among organizations within a health system. During a pandemic, some people may perceive measures to protect the public from harm (e.g. limiting access to certain health services) as a betrayal of trust. In order to maintain trust during a pandemic, Waterloo Region decision-makers and provincial authorities will:

- Take steps to build trust with the public-at-large before the pandemic occurs (i.e. engage stakeholders early); and,
- Ensure decision making processes are ethical and transparent.

Solidarity

Stemming an influenza pandemic will require solidarity among community, health care institutions, public health units, and government. Solidarity requires good, straightforward communication and open collaboration within and between these stakeholders to share information and coordinate health care delivery. By identifying that the health of the general community (and service providers) is a public good worth promoting during an influenza pandemic, Waterloo Region decision-makers, in partnership with public health workers, health care professionals, and the provincial government, will model values of solidarity while encouraging others to broaden traditional ethical values focused on rights or interests of individuals over the course of its pandemic planning initiatives.

Stewardship

In our society, both institutions and individuals will be entrusted with governance over scarce resources, such as vaccines, antivirals, ventilators, hospital beds, and even health care workers. Those entrusted with governance should be guided by the notion of stewardship, which includes protecting and developing one's resources, and being accountable for public well-being. To ensure good stewardship of scarce resources, Waterloo Region decision-makers and provincial authorities will:

- Consider both the benefit to the public good and equity (i.e. fair distribution of both benefits and burdens).

4 RESPONDING TO AN INFLUENZA PANDEMIC

Coordination and collaboration among and between all levels of government (federal, provincial/territorial, municipal), community stakeholders and other private and not-for-profit organizations will be essential during Waterloo Region's influenza pandemic response and recovery phases. As a pandemic event will impact the entire community, it is essential that roles and responsibilities, particularly the management structure at the local level, are clearly outlined.

This chapter highlights the roles and responsibilities of the various levels of government during an influenza pandemic. It also presents the local pandemic response structure, including how response efforts between governments and organizations will be coordinated.

4.1 Roles and Responsibilities during an Influenza Pandemic

4.1.1 Government of Canada

Federally, the Public Health Agency of Canada (PHAC) is responsible for coordinating the nationwide health response to an influenza pandemic. Primarily responsible for outlining provincial and territorial responsibilities during a pandemic, the PHAC will also advise on laboratory functions, the requirements for surveillance, and activities related to the acquisition and provision of vaccines and antiviral drugs. The PHAC does not directly liaise with local government or health units during a pandemic event.

The Canadian Influenza Pandemic Plan will guide the federal government's response for the health care sector.

Public Safety and Emergency Preparedness Canada (PSEPC) will provide directives to emergency management representatives at the provinces and territories while also providing information to the public via their website. PSEPC, however, will not liaise directly with local municipalities or organizations. Communication will be directed from the federal to the provincial government and from the provincial to municipal governments.

4.1.2 Province of Ontario

The Government of Ontario is responsible for planning and managing the response to an influenza pandemic in the province. Emergency management roles and responsibilities in Ontario are categorized into two responses: the health response and the emergency response.

Health Response

The Chief Medical Officer of Health and the Ministry of Health and Long-Term Care (MOHLTC) will take the lead role at the provincial level in responding to an influenza pandemic. The MOHLTC will be responsible for implementing national recommendations for surveillance and immunization programs. They will also provide guidelines and direction to local public health authorities, coordinate investigations of outbreaks and clusters of febrile respiratory illness (FRI) /influenza-like illness (ILI), coordinate public education programs, and provide overall direction to the health care sector.

The Ontario Health Plan for an Influenza Pandemic (OHP/IP) will guide the provincial response effort for the health care sector.

Emergency Response

The Ministry of Community Safety and Correctional Services (MCSCS), through Emergency Management Ontario (EMO), is responsible for coordinating the provincial emergency response effort outside of the health sector. The Commissioner of Emergency Management Ontario will support the province's response by coordinating activities and managing resources of other ministries and the municipal sector.

When an emergency is declared the province will establish the Provincial Emergency Operations Centre (PEOC). When activated, community assistance teams will be established to support municipalities in their response and recovery efforts.

The Provincial Coordination Plan for an Influenza Pandemic (PCPIP) outlines how the provincial response during an influenza pandemic will be coordinated. Emergency sector response efforts will focus on supporting the health care sector and coordinating responses to all other impacts and consequences. The PCPIP also highlights the roles and responsibilities of each provincial ministry in preparing for, and responding to an influenza pandemic.

4.1.3 Local Governments

Local health units and communities (municipalities) are responsible for coordinating the local response to an influenza pandemic. According to the Ontario Health Plan for an Influenza Pandemic, this will include, but is not limited to:

- Maintaining a local surveillance system and reporting clusters of FRI/ILI;
- Distributing vaccines, antiviral drugs and medical supplies;
- Collaborating with the provincial government and local partners;
- Assisting the health care sector in identifying additional/alternate resources; and,
- Managing local resources.

The local response to a pandemic event will be guided by the CPIPP, the Region of Waterloo Emergency Response Plan, the Public Health Emergency Plan, Municipal Emergency Plans and the organization-specific pandemic plans that build upon the CPIPP.

4.2 Waterloo Region Pandemic Response Structure

Collectively and individually, the Region and local municipalities, along with health care and community stakeholders, will respond to an influenza pandemic. During such an event, an effective response effort, where decision-making and jurisdictional authority is clearly outlined, is imperative. This section presents Waterloo Region's pandemic-specific response structure, including the coordination of the emergency declaration and overall concept of operations (how the various organizations will coordinate their response and recovery efforts).

4.2.1 Emergency Declaration

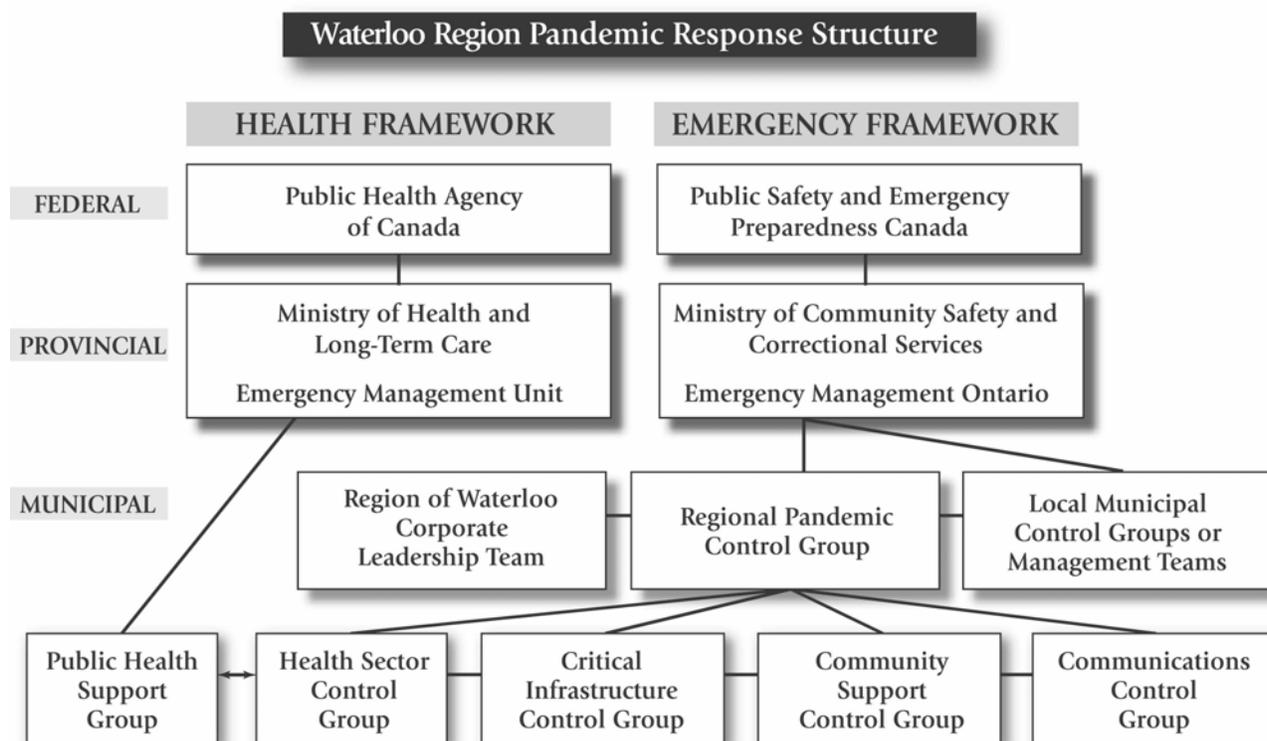
The federal and provincial governments will declare a state of emergency for Canada and Ontario respectively. This does not preclude a municipal government from making their own declaration; it is likely that an emergency, as a result of an influenza pandemic, would be declared for Waterloo Region.

To ensure Waterloo Region’s pandemic response efforts are effective and organized, there will be a need to coordinate the emergency declaration(s). Any municipality⁵ that considers declaring an emergency would consult with the other municipalities. The Region of Waterloo would then convene a Regional Pandemic Control Group (RPCG) (refer to Section 4.2.5) and work with the appropriate municipal representatives to coordinate the emergency declaration within Waterloo Region. This does not preclude the RPCG from meeting, or implementing any emergency response plan, in advance of an official emergency declaration. Emergency declaration and termination forms are attached in Appendices 1 and 2 (p. 206 and 207).

4.2.2 Coordination of Resources in Waterloo Region

It is recognized an influenza pandemic will cause significant social and economic disruption and strain local resources. Organizations will be overwhelmed and novel strategies will be required to ensure critical functions are maintained. It would be difficult to have one governing body or organization responsible for all response and recovery efforts. As a result, there is a need to coordinate some functions and services at the sector level. During an influenza pandemic, several sector-specific coordinating bodies (herein referred to as control groups) will be established to coordinate decision-making and the provision of resources for their respective sectors. Figure 1 outlines the pandemic response structure for Waterloo Region.

Figure 1: Waterloo Region Pandemic Response Structure



⁵ Municipality refers to all municipal governments in Waterloo Region: Region of Waterloo, City of Cambridge, City of Kitchener, City of Waterloo, Township of North Dumfries, Township of Wellesley, Township of Wilmot, and Township of Woolwich.

4.2.3 Coordination in the Municipal Sector

There are two levels of municipal governance in Waterloo Region. Generally, the Region of Waterloo is responsible for programs and services that are regional in scope (e.g. public health, social services, water supply) or that cross municipal boundaries (e.g. Regional roads) while the local municipalities are responsible for services and programs that are local in nature (e.g. city streets, water distribution, parks and recreation). The *Emergency Management and Civil Protection Act* permits the coordination of emergency response activities at a single level of local governance, and the Influenza Pandemic Guidelines for Municipal Emergency Management Programs published by EMO suggest that municipalities consider this approach during a pandemic event.

After considering all approaches, municipal officials in Waterloo Region recognized some services are best coordinated at the local municipal level while others should be coordinated regionally. Two (mutually agreed upon) general planning principles were devised to outline which jurisdiction (Regional or local) will coordinate decision-making and provision of various functions and services during an influenza pandemic in Waterloo Region:

1. That a Regional Pandemic Control Group (RPCG) is established; The RPCG will be responsible for decision-making and communications for functions that are common to all municipalities, or regional in scale. Examples of these functions may include, but are not limited to:
 - a. Overall coordination of the response and recovery efforts in Waterloo Region.
 - b. Efforts pertaining to a surge in natural deaths.
 - c. Information gathering and dispersal of this information to the public.
 - d. Critical functions, common to all municipalities in Waterloo Region that are coordinated regionally (as per the concept of operations listed below).

In addition, the RPCG will be responsible for addressing any other request for assistance from the sector control groups or organizations deemed essential to the response and recovery efforts.

2. Each local municipality will be responsible for decision-making and communications regarding services and functions specific to the municipality. Examples of these functions may include, but are not limited to:
 - a. Recreational and cultural programs.
 - b. Economic development and municipal planning functions.
 - c. Public works services such as water distribution and local streets.
 - d. By-law enforcement activities.
 - e. Day programming for seniors.
 - f. Licensing and other statutory functions.

To the extent possible, each municipality in Waterloo Region will continue to manage their own critical functions with their staff. Sector coordination will only occur for functions common to all municipalities (see planning principle #1 above), and when a municipality is unable to maintain one of its critical functions and issues a formal request for assistance from other municipalities in the region.

4.2.4 Concept of Operations

The concept of operations outlined below refers to the mechanism by which municipalities will conduct their own operations and interact with each other during a pandemic event. This does not preclude the Regional Pandemic Control Group from being proactive and meeting in advance of an emergency declaration or before any municipality requests assistance to maintain its critical functions.

- All municipalities need to be prepared for the implications of an influenza pandemic. Each should prepare, design and test business continuity plans to effectively manage the impacts of a pandemic such as staff shortages, disruption to supply chains, absenteeism and continuity of key or critical government services.
- To the extent possible, each municipality will continue to manage their own critical functions with their own staff.
- For services and functions that are carried out by multiple municipalities (e.g. water distribution, sewage collection, road maintenance), there may be a need to coordinate the provision of that service if a municipality declares it is unable to maintain that critical function.
- If a municipality is unable to maintain or operate a critical function, it can request assistance from the Regional Pandemic Control Group. Once the request is received, the RPCG (or a designated authority) will decide on an appropriate response. This could include a bilateral/multilateral agreement, or the RPCG could assume decision-making responsibility for that function for all municipalities. This would include pooling of municipal resources related to that function, establishing joint priorities and allocating resources to meet these priorities. For a complete list of critical functions common to all municipalities, refer to Chapter 16 on maintaining municipal critical infrastructure.
- Sector control groups, with representation from all municipalities, could be established to assist the RPCG with prioritizing and allocating resources (e.g. critical infrastructure, facilities). The sector control groups would review the available information and forward recommendations to the RPCG for final decision. Sector control groups could be activated at different times, based on the ability of the municipalities to manage their critical functions.

4.2.5 The Regional Pandemic Control Group

As a pandemic will be a sustained event that will impact the entire community, it is essential there be one central body that guides the overall response and recovery efforts. In Waterloo Region this will be the Regional Pandemic Control Group.

As per the concept of operations, the Regional Pandemic Control Group would:

- Serve as the master coordination and control point that guides and oversees the broader response and recovery efforts in Waterloo Region;
- Be responsible for decision-making and communications for functions that are common to all municipalities, or regional in scale; and,
- Be responsible for services or functions carried out by municipalities once a municipality declares it is unable to maintain that function.

Membership

The Regional Pandemic Control Group will be comprised of persons holding the following positions, or their appropriate alternates:

- Regional Chief Administrative Officer (Chair)
- Regional Chair
- Chief Administrative Officers (or equivalent) of the local municipalities
- Heads of Council/Mayors of the local municipalities
- Chief of Police
- Director of Emergency Medical Services
- Regional Fire Coordinator
- Chair, Health Sector Control Group
- Chair, Critical Infrastructure Control Group
- Chair, Community Support Sector Control Group
- Chair, Communications Control Group

In addition, the following personnel may be added to the RPCG in a support/ex-officio capacity as required:

- Region of Waterloo Manager of Emergency Measures
- Fire Chiefs and/or Community Emergency Management Coordinators of the local municipalities
- Region of Waterloo communications officials
- Region of Waterloo Public Health officials

Additional personnel called or added to the Regional Pandemic Control Group may include:

- Representatives from the School Boards
- Representatives from the Universities/Conestoga College
- Any other officials, experts or representatives deemed necessary by the Regional Pandemic Control Group.

Roles and Responsibilities

- To act as a liaison between organizations and sectors;
- To define key priorities during the response and recovery efforts;
- To disseminate pertinent information to the general public;
- To promote and direct the pooling and sharing of resources, potentially between organizations, to meet these key priorities; and,
- To make the necessary decisions to protect the welfare, health and safety of the citizens of Waterloo Region.

Given these aforementioned responsibilities, the RPCG will:

- Receive direction from the Ministry of Community Safety and Correctional Services (MCSCS)/Emergency Management Ontario (via the Provincial Emergency Operations Centre).
- Coordinate the sharing of information between sector control groups;
- Make decisions regarding recommendations from the sector control groups; and,
- Receive and process requests from the sector control groups.

Supporting Bodies

The Regional Pandemic Control Group may establish advisory groups, sub-committees, and/or sector control groups as required.

4.2.6 Region of Waterloo Corporate Leadership Team

The Region of Waterloo Corporate Leadership Team will be responsible for coordination and decision-making for services and programs operated by the Region of Waterloo that are not being centrally coordinated by the RPCG.

When applicable, decisions, recommendations and requests for resources will be forwarded to the RPCG for consideration and action. The Corporate Leadership Team may also receive requests for support from the RPCG.

The Corporate Leadership Team is comprised of senior management officials from the Region of Waterloo.

4.2.7 Municipal Control Groups (or Management Teams)

Municipal Control Groups (or their respective Management Teams) will be responsible for coordination and decision-making for services and programs operated by their respective municipality.

When applicable, decisions, recommendations and requests for resources will be forwarded to the RPCG for consideration and action. The Municipal Control Groups/Management Teams may also receive requests for support from the RPCG. They will also receive direction from Emergency Management Ontario (via the Provincial Emergency Operations Centre).

Municipal Control Group or Management Teams are primarily comprised of senior officials and their composition will vary from municipality to municipality.

4.2.8 Coordination in the Health Care Sector

The impact of an influenza pandemic on health services will be significant. Some services will need to be curtailed or cancelled, care will be provided in alternative settings, and alternative workers will be utilized. Given the strain on the sector, and to ensure optimal patient flow through the health care system, information sharing and decision-making will need to occur at a sector level. As such, the Health Sector Control Group (HSCG) will be established to make decisions for this sector during a pandemic event.

Membership

The Commissioner/Medical Officer of Health for Waterloo Region (or designate) will serve as Chair of the Health Sector Control Group.

The group will be comprised of senior management from lead organizations involved in the response and recovery effort. This will include representatives from the following organizations:

- Region of Waterloo Public Health
- Cambridge Memorial Hospital
- Emergency Medical Services

- Grand River Hospital
- St. Mary's General Hospital
- Waterloo Wellington Community Care Access Centre
- Any organization responsible for the management or operation of an Influenza Assessment, Treatment or Referral Centre or Convalescent Care Centre.

The group may also have representation from the following sectors in the health care community:

- Long-Term Care Homes
- Community Health Centres
- Primary health care providers

Other individuals, such as subject matter experts (e.g. infection control specialists, pharmacists, representatives from laboratories) may be invited to participate in meetings as required.

Roles and Responsibilities

- To facilitate the sharing and interpretation of information (e.g. surveillance data, communications) among health care organizations involved in the response effort.
- To coordinate the external health sector response and recovery effort in Waterloo Region, including decisions related to:
 - Patient flow (through the entire health care system)
 - Influenza Assessment, Treatment and Referral Centres (Flu Centres) and Convalescent Care Centres
- To ensure the response and recovery efforts are consistent between health care organizations, including the deferral of services in acute settings.
- To devise key health messages for the public, health care workers and emergency responders.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).
- To receive direction from the Ministry of Health and Long-Term Care (via the Ministry Emergency Operations Centre and Provincial Emergency Operations Centre).

Supporting Bodies

During emergencies, the Commissioner/Medical Officer of Health (or designate) convenes the Public Health Support Group (PHSG). The PHSG is comprised of Public Health staff that directly support the activities carried out Commissioner/Medical Officer of Health. During a pandemic, the PHSG will be responsible for all tasks that are the responsibility of the local public health unit (i.e. public health measures, surveillance, distribution of vaccine and antivirals), and for supporting the Health Sector Control Group. The Associate Medical Officer of Health for Waterloo Region (or designate) will chair the PHSG.

4.2.9 Coordination in the Community Support Sector

An influenza pandemic could cause significant economic and social disruption. As a result, the demand for community support services is expected to increase. In addition to supporting their

traditional populations, community support organizations will be asked to increase their response capacity to help alleviate this increased demand and assist with the response and recovery efforts. Given the number of community support organizations, however, information sharing and decision-making will need to be coordinated at a sector level. As such, the Community Support Control Group (CSCG) will be established to make decisions for this sector during a pandemic event.

Membership

The Commissioner, Social Services for the Region of Waterloo (or designate) will serve as chair of the Community Support Control Group.

The group will be comprised of senior management from lead organizations involved in the response and recovery effort. This would include representatives from the following organizations:

- Cambridge & District Humane Society
- Cambridge Self-Help Food Bank
- Canadian Mental Health Association
- Canadian Red Cross Society
- City of Cambridge (Volunteer Services)
- City of Kitchener (Volunteer Resources)
- City of Waterloo (Volunteer Services)
- Community Care Concepts of Woolwich, Wellesley and Wilmot
- Family and Children's Services of the Waterloo Region
- The Food Bank of Waterloo Region
- Kitchener-Waterloo Humane Society
- Kitchener-Waterloo Meals on Wheels
- Meals on Wheels and Community Home Support (Cambridge)
- Region of Waterloo Social Services
- Region of Waterloo (Volunteer Services)
- Volunteer Action Centre of Kitchener-Waterloo
- Waterloo Wellington Community Care Access Centre

The group will also have representation from the following sectors:

- Faith communities
- Multi-cultural communities
- Shelters

Other individuals may be invited to participate in meetings as required.

Roles and Responsibilities

- To facilitate the gathering and sharing of information among the lead organizations involved in the community support sector response effort.
- To make decisions (e.g. scope, prioritization) pertaining to the provision of community support services.
- To facilitate the communication of key decisions and information with other organizations in the sector.

- To devise key messages for the public regarding the provision of community support services during a pandemic.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and other sector control groups (via the REOC).
- Receive direction from the Ministry of Community Safety and Correctional Services (MCSCS)/Emergency Management Ontario (via the Provincial Emergency Operations Centre).

4.2.10 Coordination of Critical Infrastructure

As per the concept of operations discussed earlier, if a municipality is unable to maintain or operate a critical function, it can request assistance from the Regional Pandemic Control Group. Such a request would be the trigger point for the RPCG (or a designated authority) to implement a bilateral/multilateral agreement regarding the provision of that service or for the RPCG to assume decision-making responsibility for that function for all municipalities. This would include pooling of municipal resources related to that function, establishing joint priorities and allocating resources to meet these priorities.

To establish these joint priorities and make the necessary decisions and recommendations regarding the shared allocation of resources, a Critical Infrastructure Control Group will be established.

Membership

The Commissioner of Transportation and Environmental Services for the Region of Waterloo (or designate) will serve as chair of the Critical Infrastructure Control Group.

The group will be comprised of senior public works officials from all municipalities in Waterloo Region.

The group will also have representation from the other critical infrastructure providers (e.g. gas, hydro, water).

Roles and Responsibilities

- To assess the ability of municipalities in Waterloo Region to maintain their critical functions.
- To determine priorities for the provision of critical infrastructure services and functions.
- To allocate resources, including the sharing and pooling of resources, based on mutually agreed upon priorities.
- To implement mutual aid/mutual assistance agreements when required.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).

- To receive direction from the Ministry of Community Safety and Correctional Services (MCSCS)/Emergency Management Ontario (via the Provincial Emergency Operations Centre).

4.2.11 Coordination of Communications

The Communications Control Group (CCG) will be responsible for communicating the decisions and key messages of the Regional Pandemic Control Group and other Control Groups to the media and the general public. The CCG will make all decisions about communications vehicles, timing, and format.

Membership

The Region of Waterloo Director of Corporate Communications (or designate) will serve as chair of the Communications Control Group.

Region of Waterloo communications staff, from a variety of departments, will assume the role of Communications Officers within the Communications Control Group during a pandemic. The Communications Officers will support the chair and members of the Regional Pandemic Control Group and sector control groups.

Communications leads from the following organizations will be ex-officio members of the CCG. They will serve in an advisory capacity:

- Cambridge Memorial Hospital
- City of Cambridge
- City of Kitchener
- City of Waterloo
- Conestoga College
- Grand River Hospital
- St. Mary's General Hospital
- University of Waterloo
- Waterloo Catholic District School Board
- Waterloo Regional Police Service
- Waterloo Region District School Board
- Waterloo Wellington Community Care Access Centre
- Wilfrid Laurier University

Roles and Responsibilities

- To advise Regional Pandemic Control Group and sector control group members on communications strategies.
- To prepare spokespeople for media interviews as needed.
- To assist in devising and delivering key communications messages and vehicles to the media and general public.
- To coordinate media conferences at Regional headquarters as required.
- To evaluate the effectiveness of communications activities.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.

- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).
- To receive direction from the Ministry of Health and Long-Term Care and the Ministry of Community Safety and Correctional Services (MCSCS)/Emergency Management Ontario (via the Provincial Emergency Operations Centre).

Table 4 presents a summary of each control groups' roles and responsibilities.

Table 4: Summary of Roles and Responsibilities by Control Group

Control Group	Primary Roles and Responsibilities (Brief Overview)
Regional Pandemic Control Group	<p>Coordination and control point that guides and oversees the broader response and recovery efforts in Waterloo Region.</p> <p>Coordination and decision-making for critical functions that need to be coordinated regionally.</p>
Health Sector Control Group	Coordinate all aspects of the health sector response and recovery effort in Waterloo Region.
Community Support Control Group	Facilitate the gathering and sharing of information among the lead organizations involved in the community support sector response effort, and to make decisions (e.g. scope, prioritization) pertaining to the provision of community support services.
Critical Infrastructure Control Group	<p>For regionally coordinated critical functions:</p> <ul style="list-style-type: none"> • Determine priorities for the provision of critical infrastructure services and functions • Allocate resources, including the sharing and pooling of resources, based on mutually agreed upon priorities.
Crisis Communications Control Group	Communicate the decisions and key messages of the Regional Pandemic Control Group and other control groups to the media and the general public.
Region of Waterloo Corporate Leadership Team	Coordination and decision-making for services and programs operated by the Region of Waterloo.
Municipal Control Groups	Coordination and decision-making for services and programs operated by the respective local municipalities.

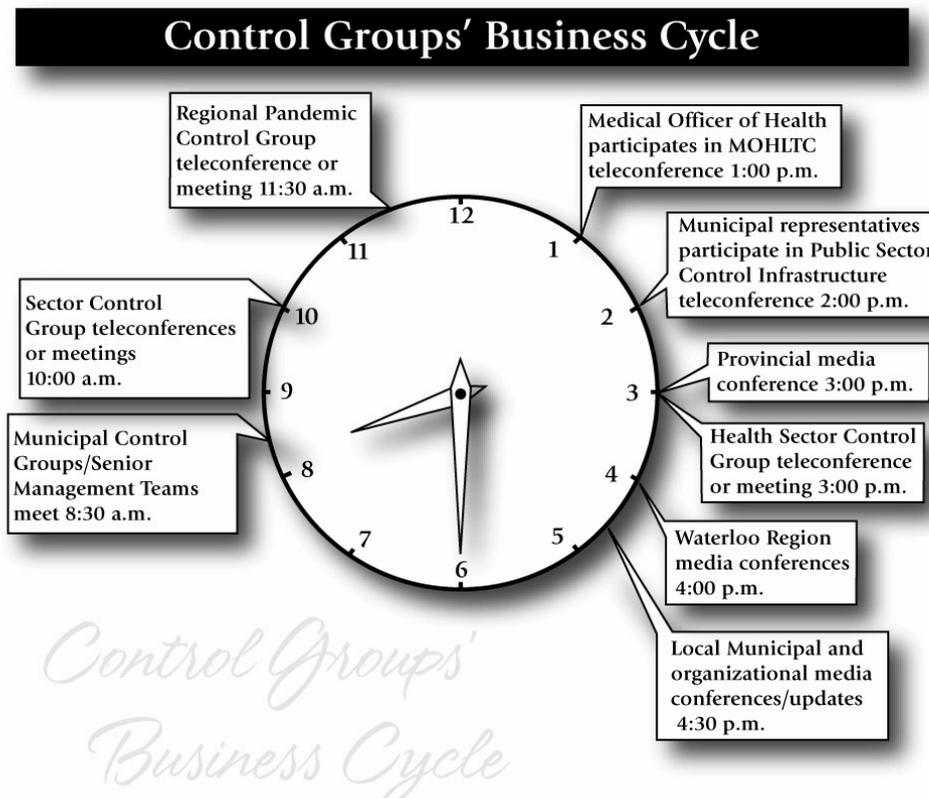
Control Group	Primary Roles and Responsibilities (Brief Overview)
Public Health Support Group	Responsible for all aspects related to: <ul style="list-style-type: none"> • Surveillance • Public health measures • Antiviral procurement, distribution and use • Mass Immunization

4.2.12 Business Cycle

In order to facilitate sharing of information, all control groups will need to gather at regular intervals to inform each other of actions taken, problems encountered and to address requests for assistance. However, during an influenza pandemic, key decision-makers from all organizations will have severe limitations on their time. *As such, the control groups will not meet on a daily basis.* All control groups will meet as required, and the chair of each control group will establish the frequency of meetings and agenda items. All meetings will be kept as brief as possible allowing members to carrying out their individual responsibilities.

Figure 2 presents the business cycle for all control groups. Meetings (when required) will be held at standard times to avoid duplication. It is anticipated that most meetings will be held via teleconference rather than in person. This will be determined by the chair of each control group.

Figure 2: Control Groups' Business Cycle



PART II:
REGION OF WATERLOO PUBLIC HEALTH
RESPONSE TOOLS AND GUIDELINES

5 SURVEILLANCE

Surveillance is the process by which public health monitors illness and diseases. It is an ongoing, systematic process of collecting, analyzing, interpreting and disseminating information about illness and disease within communities so that public health decision makers can make informed decisions based on evidence. Surveillance will form the backbone of the health sector's response and recovery efforts.

Through the lens of pandemic influenza planning and response, surveillance will be used to detect the pandemic strain, monitor its progression through communities and provide data upon which decisions affecting all aspects of pandemic influenza response can be made. It is surveillance data that will help determine when to implement certain public health measures, or when to open Influenza Assessment, Treatment and Referral Centres (Flu Centres).

Data gathered and used for surveillance is different from data gathered and used for logistical purposes. In a pandemic it may be very important to monitor the volume of calls received daily to the general information line in order to ensure adequate staffing; however, these data are not needed for surveillance and are not included in this document.

When undertaking surveillance planning, it is important to consider not only what information would be useful to decision makers, but also to consider the feasibility of systematically collecting the information and its potential impact on public health response. As such, not all potential surveillance activities are included in this plan. This does not preclude other surveillance activities from taking place nor does it mean that they are being overlooked; however, the realities of responding to a public health emergency of the scale of a pandemic need to be considered.

It is possible that during a pandemic, the province or the federal government may request that local health units take on additional data collection for the purpose of special studies. These data may be an enhancement to current surveillance activities or data not currently directed. Region of Waterloo Public Health would be an active participant in any identified special studies.

5.1 Definitions & Objectives of Surveillance Activities

The World Health Organization (WHO) and the Public Health Agency of Canada have established definitions that are associated with the identification of an influenza pandemic. While these definitions are similar, they are not exactly the same. For the purpose of organizing Waterloo Region's Community Pandemic Influenza Preparedness Plan (CPIPP), the following three categories have been used for surveillance planning.

Interpandemic Period (WHO phases 1, 2)

The objectives of surveillance activities during the interpandemic period are to monitor current influenza activity, to identify changes in the epidemiology of annual influenza, and to identify the beginning and end of each influenza season. These surveillance activities include those already be in place as well as potential additional activities planned to be initiated before the pandemic alert period. These activities are sufficient to enable the Region of Waterloo Public Health to detect and identify a novel strain of influenza. These activities also put into place partnerships that will facilitate changes in surveillance activities throughout the pandemic phases.

Pandemic Alert Period (WHO phases 3, 4, 5)

The objective of surveillance activities during the pandemic alert period is to detect (as early as possible) circulation of the novel strain in Waterloo Region. During this enhanced surveillance period, additional activities will focus on specific populations (e.g. children, ill persons seeking medical attention) and types of illness (i.e. acute influenza-like illness [ILI], febrile respiratory illness [FRI]).

Pandemic Period (WHO Phases 6)

The objectives of surveillance activities in the pandemic period are to quantify the magnitude of the pandemic in Waterloo Region in terms of person, time and place, and to provide decision makers with sufficient information to implement timely response measures.

5.2 Response to Surveillance Findings

While surveillance as defined above includes the monitoring, analyzing and interpreting of data, it does not include the response that may be required when disease is identified. The public health response to surveillance is an important aspect of a comprehensive public health surveillance system.

During all of the pandemic phases, surveillance data will provide triggers for a local public health response. Specific response activities will vary by type of institution, type of illness (ILI vs. infection with novel influenza virus), and pandemic phase. These response activities will include, but are not limited to: investigation of clusters of ILI or pandemic influenza, increased vigilance of absentee rates in a school, increased specimen collection among specific populations and requests for additional laboratory testing.

Changes in surveillance data will also be used to monitor the progression of the pandemic locally, regionally and nationally. The data will provide vaccine coverage rates, attack rates in the general population and will be used to evaluate the ongoing management efforts.

5.3 Surveillance for Influenza

The primary goal of surveillance for influenza is early identification of a novel influenza virus circulating in Waterloo Region. This section provides details on the surveillance activities for each of the pandemic phases. The activities have been separated by the location where the surveillance data is expected to be collected (e.g. hospitals, schools). Each location has been defined for additional clarity and is captured in a single table. When necessary, rationale for having or not having surveillance activities or for changing the variables being collected has been provided.

Note: Currently all health care setting administrators, laboratories and community/attending physicians need to report to the local Medical Officer of Health when:

- A patient has a new/worsening cough, fever AND a travel history to a country with a health alert OR contact with someone with a travel history to a country with a health alert.
- The etiology of a febrile respiratory illness is a reportable disease, such as influenza, legionellosis, pertussis, SARS, etc.
- There is an outbreak or cluster of FRI in any health care facility.

Several different data collection tools are expected to be used to capture the variety of surveillance data being collected.

Walk-in Clinics

Definition:

Walk-in and urgent care clinics are defined as offices providing non-emergent care to patients, with or without an appointment where the physician providing the care is not required to be the patient's family doctor. This excludes doctor's offices.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> Any patient with a new or worsening cough, fever AND a travel history to a country with a health alert OR contact with someone with a travel history to a country with a health alert (FRI). 	Upon detection of a case	Passive	
Pandemic Alert	<ul style="list-style-type: none"> Number of ILI cases seen each day by age group (standard <1, 0-4, 5-6, ...65-69, 70-74, 75+) Consider increased testing of ILI. 	Reported weekly to the Public Health Unit	Enhanced passive	Influenza Like Illness (ILI): Acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, arthralgia, myalgia, or prostration. People < 5 yrs or > 65 yrs may not exhibit fever. Children < 5 yrs, may exhibit gastrointestinal symptoms.
Pandemic				During the pandemic period, the walk-in clinic surveillance will shift from walk-in and urgent care clinics to the Influenza Assessment, Treatment and Referral Centres (Flu Centres). Once the Flu Centres are operational, surveillance will be stopped in walk-in clinics and initiated in the Flu Centres.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

School Absenteeism

Definition: An institution for the instruction of children or people under college/university age. This excludes child care centres.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> • 10% or greater absentee rate in the school population • any unusual absentee rate (i.e. in a classroom) 	At threshold during school year. Note that this indicator is lost during school holidays or closures.	Passive with enhanced follow-up after threshold is reached.	
Pandemic Alert	<ul style="list-style-type: none"> • 7% or greater absentee rate in the school population • any unusual absentee rate (i.e. in a classroom) 	At threshold during school year. Note that this indicator is lost during school holidays or closures.	Passive with enhanced follow-up after threshold is reached.	7% rate is for discussion pending determination of baseline absentee rates.
Pandemic	<p>Surveillance will only occur early in the pandemic phase (see rationale).</p> <ul style="list-style-type: none"> • 7% or greater absentee rate in the school population • any unusual absentee rate (i.e. in a classroom) 			School surveillance will be discontinued at the discretion of the local MOH when this indicator is deemed to be no longer useful.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Child care Centre Absenteeism (excludes home daycares)

Definition: A premise that receives more than five children who are not of common parentage, primarily for the purpose of providing temporary care, or guidance, or both temporary care and guidance, for a continuous period not exceeding twenty-four hours, where the children are, (a) under eighteen years of age in the case of a day nursery for children with a developmental disability, and (b) under ten years of age in all other cases, but does not include, (c) part of a public school, separate school or private school under the *Education Act*.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> 10% or greater absentee rate due to acute respiratory illness. 	At threshold.	Passive	
Pandemic Alert	<ul style="list-style-type: none"> 10% or greater absentee rate due to acute respiratory illness. 	At threshold.	Enhanced Passive	
Pandemic	No surveillance.			Resource allocation will be required other surveillance activities.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Physician’s Offices

Definition: Family physician offices, Community Health Centers, University services and other private groups providing ongoing primary health care.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> Any patient with a new or worsening cough, fever AND a travel history to a country with a health alert OR contact with someone with a travel history to a country with a health alert (FRI). 	Upon detection of a case.	Passive	As per PIDAC guidelines (August 2006).
Pandemic Alert	<ul style="list-style-type: none"> FRI as above. Increased testing (rapid test and culture) of Influenza Like Illness (ILI). Consider identifying sentinel physicians for systematic testing of ILI. 	Upon detection of a case.	Enhanced passive	Increased vigilance of physicians for pandemic strain.
Pandemic	No surveillance.			Surveillance focus will shift to Flu Centres and hospital Emergency Rooms.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Hospital Emergency Departments

Definition: A room in a hospital or clinic staffed and equipped to provide emergency care to persons requiring immediate medical treatment.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> Any patient with a new or worsening cough, fever AND a travel history to a country with a health alert OR contact with someone with a travel history to a country with a health alert (FRI). Informal reporting clusters of acute respiratory illness 	Upon detection of a case.	Passive	Required under the <i>Regulated Health Professions Act</i> . Influenza Like Illness (ILI): Acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, arthralgia, myalgia, or prostration. People < 5 yrs or > 65 yrs may not exhibit fever. Children < 5 yrs, may exhibit gastrointestinal symptoms.
Pandemic Alert	<ul style="list-style-type: none"> FRI as above. Increased testing (rapid test and culture) of ILI 	Upon detection of a case.	Passive Enhanced case finding	Increased vigilance of physicians for pandemic strain. Specimen collection on symptomatic patients as guided by the province.
Pandemic	Influenza Illness and ILI: <ul style="list-style-type: none"> Total number of patients seen per day by age category: infant (0-1), child (2-18), adult (19-65), older adult >65 Deaths (crude mortality) Total number of deaths each day by age category: infant (0-1), child (2-18), adult (19-65), older adult >65 	Daily over a 24 hour period from 7 a.m. to 7 a.m.	Active	During pandemic this will be at Flu Centres & hospitals. Frequency of testing at Flu Centres per age group, per day to be determined by the local Medical Officer of Health and the province.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Long Term Care (LTC) Facilities

Definitions: Nursing Home: Any premises maintained and operated for persons requiring care or in which such care is provided to two or more unrelated persons, but does not include any premises falling under the jurisdiction of, (a) the *Charitable Institutions Act*, (b) the *Child and Family Services Act*, (c) the *Homes for the Aged and Rest Homes Act*, (d) the *Mental Hospitals Act*, (e) the *Private Hospitals Act*, or (f) the *Public Hospitals Act*.

Public Home for the Aged: There is no classification for Public Homes for the aged, but this term is used to refer to a LTC Home which is operated by a municipality – those LTC Homes are governed by the *Homes for the Aged and Rest Homes Act*. Municipal homes for the aged are owned by municipal councils.

Retirement Home: Privately owned residence for older adults (with more than 10 residents).

Facilities operating under the *Developmental Services Act*.

Children’s Residences.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> • 2 or more cases of acute respiratory illness among residents within 48 hours on a unit or separate units. • ILI in staff. • Testing of all initial or sporadic ILI cases. 	Within 24 hours of detection.	Passive with enhanced follow-up after threshold is reached.	
Pandemic Alert	<ul style="list-style-type: none"> • 2 or more cases of acute respiratory illness within 48 hours on a unit or separate units. • ILI in staff. • Testing of all initial or sporadic ILI cases. 	Within 24 hours of detection.	Passive with enhanced follow-up after threshold is reached.	
Pandemic	For residents and staff: <ul style="list-style-type: none"> • Total number of cases, cases admitted to hospital, cases of pneumonia • Total number of deaths attributed to the outbreak. 	As cases detected.	Passive	“Cases” refers to persons with pandemic influenza infection. As per the Pandemic Data Collection Forms for Institutions (OHPIP 2006).

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness, LTC — Long-Term Care

Local Laboratories

Definition: Local hospital laboratories, public health laboratories and community laboratories. The National Microbiology Laboratory in Winnipeg will play a key role in confirming the presence of the pandemic strain in Ontario.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> • Report all laboratory confirmed cases of influenza. • Hamilton surveillance summary. 	<p>As cases detected.</p> <p>Weekly.</p>	<p>Passive</p> <p>Passive</p>	
Pandemic Alert	<ul style="list-style-type: none"> • Report all laboratory confirmed cases of influenza including percent positive. • Hamilton surveillance summary. 	<p>As cases detected.</p> <p>Weekly.</p>	<p>Enhanced passive</p> <p>Passive</p>	
Pandemic	<ul style="list-style-type: none"> • Report all laboratory confirmed cases of influenza. 	<p>As cases detected.</p>	<p>Passive</p>	<p>The province will provide guidelines for prioritization of laboratory services during the pandemic.</p>

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Pharmacies

Definition: A licensed establishment where prescription drugs are filled and dispensed by a pharmacist licensed under the laws of the province where he or she practices.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> No surveillance. 			Over the counter medications generally sought for acute respiratory illness are non-specific and are not likely to provide a sensitive or specific means of early detection of influenza in the community.
Pandemic Alert	<ul style="list-style-type: none"> No surveillance. 			Over the counter medications generally sought for acute respiratory illness are non-specific and are not likely to provide a sensitive or specific means of early detection of influenza in the community.
Pandemic	No planned surveillance			The implementation of surveillance in pharmacies during the pandemic period will depend on role of pharmacies in distribution of antivirals.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Shelters

Definition: Groups of more than 30 unrelated individuals living in close proximity with shared toilet facilities. The population within each shelter is assumed to be transient (different people living there for various periods of time).

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> No Surveillance. 			Control measures limited in shelter environment and with transient population. Avoid barriers to shelter use.
Pandemic Alert	<ul style="list-style-type: none"> Report unusual respiratory activity or perceived increase in respiratory illness among clients and/or staff. 	As soon as detected.	Enhanced Passive	To identify clusters acute respiratory illness among this hard to reach population.
Pandemic	<ul style="list-style-type: none"> No Surveillance 			

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

Workplace Absenteeism

Definition: A place, such as an office or factory, where people are employed.

Period	Surveillance Indicator	Reporting Frequency	Type	Rationale
Interpandemic	<ul style="list-style-type: none"> No Surveillance. Consider identifying sentinel sites for routine reporting of absenteeism and identification of reporting threshold. 	At threshold.	Passive with enhanced follow-up after threshold is reached.	For the early identification of ILI in the working population.
Pandemic Alert	If sentinel sites are in use, continue to report absenteeism at previously identified threshold.	At threshold	Passive with enhanced follow-up after threshold is reached.	For the early identification of ILI in the working population.
Pandemic	No Surveillance.			Efforts need to be focused elsewhere.

Legend: ILI — Influenza-Like-Illness, FRI — Febrile Respiratory Illness

5.4 Surveillance for Vaccine Use and Adverse Events Following Immunization (AEFI)

Identifying unusual side effects or events following immunization with the pandemic strain of influenza will be a key activity for public health staff. Reporting of any unusual events or side effects experienced following the receipt of pandemic strain vaccine will also be encouraged from clinicians and directly from the public.

With any new vaccine that is given to large numbers of persons, rare or unexpected events may occur. Timely collection and analysis of these events is critical in ensuring that any issues that could affect the safety or perceived safety of the vaccine are immediately investigated and reported.

Vaccine coverage rate estimation by age or risk group may be an important indicator as the immunization of priority groups is initiated. This information will be collected and collated at all mass immunization clinics coordinated by and reported on a daily or as-required basis to the Ministry of Health & Long Term Care as per their direction.

5.5 Surveillance of Antiviral Use and Adverse Events

Timely reporting of adverse events associated with the increased use of antiviral drugs by the general population will be necessary to monitor for unusual or rare events. Reporting is likely to be required to public health through the normal reporting channels (Public Health's Communicable Disease Control Program or a designated reporting line to be set up). Persons receiving antiviral therapy will be provided with information regarding common side effects and recommendations regarding the need to have unusual symptoms assessed either by their physician (if available) or at an Influenza Assessment, Treatment and Referral Centre.

5.6 Returning to the Interpandemic Period

At the end of the pandemic period, surveillance activities from the interpandemic period will resume. During this time, detailed epidemiological summaries of the epidemiology of the pandemic in Waterloo Region will be written. Detailed retrospective analysis will be undertaken and additional data (i.e. chart reviews for hospitalized influenza patients) may be collected to provide additional insight and understanding of the pandemic. During this period it is likely that special studies will be undertaken to evaluate items such as the impact of control measures, the long-term effects of antiviral use, and the effectiveness of the vaccine for the new influenza strain.

A review of the surveillance data collected (and its usefulness) will be undertaken, and changes to current interpandemic surveillance activities may be necessary based on new knowledge gained from the pandemic response.

5.7 Areas of Ongoing Discussion

The following are areas where surveillance activities are warranted but clarity as to the roles and responsibilities of local public health unit are not yet clear or the surveillance activities may be overseen by another level of government (provincial or federal).

- Influenza Assessment, Treatment and Referral Centres (Flu Centres) will be a very important source of surveillance data.

- Limitations on the number of specimens that laboratories will test are expected, and more information is required before surveillance systems for laboratory tests can be established at the local level.
- Correctional Facilities — these facilities fall under provincial or federal jurisdiction; however, during a pandemic it would be helpful for the local Medical Officer of Health to have access to surveillance data for decision making purposes.

5.8 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding surveillance include:

- Monitor and review future research as well as directives and surveillance tools provided in the Canadian Pandemic Influenza Plan and Ontario Health Plan for an Influenza Pandemic.
- Revise Waterloo Region's surveillance strategy as information and updates become available. Ensure compliance with provincial surveillance requirements.
- Inform the health care sector of the Ministry of Health and Long-Term Care and Region of Waterloo Public Health's surveillance requirements during an influenza pandemic.
- Develop a reporting structure (and necessary protocols) to be used by organizations involved in the response and recovery efforts. Secure the necessary infrastructure to ensure the effective operation of the reporting system.

6 PUBLIC HEALTH MEASURES

Public Health Measures aim to reduce or mitigate the spread of a disease in a community by the adoption of non-medical interventions by the population. The measures may be aimed at individuals or the entire community. The goal is to decrease the number of individuals who are exposed to the novel virus and potentially slow the progress of the pandemic within the community. Transmission of influenza can not be eliminated; rather, the aim of public health measures is to slow the progress of the virus. Many of the significant impacts of a pandemic relate to the surge of illnesses in a short period of time, and slowing the progress of the pandemic would be helpful in aiding the community's response and recovery efforts.

6.1 Objectives

1. To decrease the number of individuals exposed to the novel virus within Waterloo Region.
2. To reduce the numbers of illnesses and deaths caused by the pandemic virus.
3. To gain time to implement medical measures and implement other emergency support services by slowing the progression of the pandemic within the population.

6.2 Public Health Measures

Public Health Measures by definition are “non-medical” interventions and may include the following recommendations, behaviours or activities for individuals and communities to adopt:

Individual-based measures

- Case and contact management by public health staff to isolate newly diagnosed cases in the very early stages of arrival of the pandemic virus in the community. Quarantine of close contacts will only be used in the pandemic alert stage when a new pandemic strain of an influenza virus is identified globally. This is unlikely to occur in Canada.
- Travel advisories to defer travel to affected countries or areas.
- Provision of information by telephone hotlines to persons who may be ill or seeking information on self-care measures.

Community-based measures

- Public education on disease prevention strategies and personal protective measures such as hand hygiene & respiratory etiquette.
- “Social distancing measures” such as closure of schools or daycares and potential cancellation of large gatherings. Social distancing refers to decreasing the gatherings of large numbers of people where feasible for the purpose of reducing the number of people exposed to influenza, and to slow down the transmission of influenza on a community wide basis.

6.3 Factors to Consider in the Selection and Application of Public Health Measures

The type measures that are used or recommended during a pandemic and the timing of their implementation may vary depending on:

- The epidemiology of the pandemic virus (how quickly it is spreading, the age groups most affected, attack rates, period of communicability and susceptibility to antivirals, etc.)
- The amount of pandemic virus activity in an area.
- The resources of Region of Waterloo Public Health to be able to continue to isolate and monitor individual cases (most likely to occur at the very beginning of virus circulation in the region).
- The characteristics of the community (urban v. rural).
- The amount of social or critical service disruption that the measure will cause.

It must be emphasized that the effectiveness of these measures has not been scientifically proven or measured. Experience with the application of a number of different public health measures was documented during the 1918 – 1920 Spanish Influenza pandemic. Most evidence suggests that in most communities these interventions did not prevent the spread of the virus. It remains unclear though to what extent they may have been partially effective in reducing spread or mitigating community impact (Markel et al., 2006).

A comprehensive approach that includes a number of strategies (including the addition of medical interventions such as a targeted antiviral medication and vaccine administration approach) will likely be most effective in responding to a pandemic.

6.4 Responsibility and Authority for Public Health Measures Implementation

The *Health Protection and Promotion Act* (HPPA) gives the local Medical Officer of Health the legal authority to implement and enforce public health measures within the health unit area if necessary to protect the public.

To allow for coordination and consistency of these measures between different areas of the province during a pandemic, the decision to use certain public health measures will be made by the Chief Medical Officer of Health (CMOH) for the province, in consultation with local medical officers of health. Additionally, national directives or recommendations regarding actions or measures may also be made by Canada's Chief Medical Officer of Health. Additional information on public health measures can also be found in the current Canadian and Ontario pandemic plans.

Consultations will occur during the daily scheduled teleconferences with the CMOH and all local medical officers of health in Ontario. Prior to these teleconferences, a summary of current local surveillance indicators obtained over the preceding day/night will be reviewed with the local Medical Officer of Health to advise on the current disease level status within the region, and to provide any evidence that trigger points for additional measures have been reached.

It is ideal that messages and measures be consistent across the areas served by different health units. However, it is recognized that timing of the measures may vary depending on the level of pandemic activity in a particular area or the nature of the community.

The Medical Officer of Health has an ethical duty to use the least coercive means possible in recommending public health measures to be undertaken. The ethical principle of proportionality also requires that the Medical Officer of Health or health unit provide any appropriate information or assistance required to facilitate compliance with any orders or recommendations. For those measures that may have significant societal effects (such as closures of schools or

daycares, etc.) every effort will be made to consult and work with affected organizations to plan and implement actions in a mutually acceptable way.

In outbreak situations, organizations may also make their own decisions regarding the continuation of services for operations reasons as opposed to public health reasons. These may be contrary to recommendations made by local medical officers of health on public health grounds.

6.5 Responsibility for Communication of Measures

Information specific to measures to be taken by residents or organizations within Waterloo Region will be relayed through the communication channels that are, or will be, in place for a pandemic event (refer to Chapter 18 on crisis communications).

6.6 Public Health Measures/Strategies for Mitigating an Influenza Pandemic

Appendix 3 (p. 208) presents a summary table of public health measures/strategies for mitigating an influenza pandemic.

6.6.1 Assumptions

It is important to note again that the effectiveness of the measures outlined below has not been formally evaluated. These measures have been put forward based on review of past pandemics, expert consultation, review of measures being considered by other jurisdictions and the new and evolving body of knowledge gained from mathematical and epidemiological modeling studies.

Modeling studies, and therefore recommendations, for a number of the following public health measures are based on assumptions that characteristics of a future pandemic virus strain would be similar to seasonal influenza virus. These assumptions include:

- Pandemic influenza will be transmitted from person to person primarily via droplet spread (through spread of respiratory droplets up to a metre from an infected person when they cough or sneeze).
- Transmission by contact with virus-laden droplets on non-porous surfaces and subsequent self inoculation onto the mucosal surfaces of the nose or eyes may be possible.
- Pandemic influenza will be moderately to highly transmissible.
- Clinical attack rates (essentially those persons ill enough to be classified as a clinical case, or individuals who will be sick enough to take time off work) will be between 28% and 34%.
- A larger percentage of the population may be infected (up to 50%) but clinical illness will not be evident or very mild.
- Cases are most infectious after symptoms develop, but can potentially shed the virus for up to 5 days (adults) or 7 or more days (children) if not treated with antiviral drugs.
- The incubation period (time from exposure until illness or infection develops) will be 1 to 3 days.
- Influenza is transmitted most effectively and efficiently within a household setting.
- Children are more efficient at spreading influenza to other children and adults.

- Transmission of influenza in schools is more efficient than that in workplaces or other social networks due to the larger number of contact rates in this setting and the presence of children.
- Antiviral treatment of symptomatic persons must be initiated as soon as possible (within 48 hours) after symptom onset to reduce clinical illness and possibly infectiousness of case.
- Persons who recover from illness caused by the pandemic strain will be immune to further infection by that strain.

6.6.2 Public Education & Preparation Campaigns

Description

A knowledgeable and prepared population is the best defence during an influenza pandemic. A number of public education initiatives are underway at the provincial and local levels to provide ongoing information and updates on the status of pandemic planning and preparedness. These campaigns include messaging around:

- Hand hygiene.
- Staying home if ill with symptoms of fever and cough to avoid passing illnesses on to others.
- Personal preparedness for emergencies (stockpiling of emergency food & supplies).

Initiation Trigger

When isolated cases of a novel virus with potential for human-to-human spread have been identified in the world (Pandemic Alert Period).

Responsibility for public education

In Ontario, Public Health Units and the Emergency Management Unit of the Ministry of Health and Long Term care have assumed a leadership role (locally and provincially) in providing pandemic influenza resources and education to communities. Additional public preparedness campaigns have also been initiated at the federal level (www.pandemicinfluenza.gc.ca).

Local Status

A local pandemic information website has been established (www.waterlooregionpandemic.ca) to provide information and resources to the public, business owners and health care providers. This website will continue to be updated and promoted on an ongoing basis in Waterloo Region.

An additional public campaign on cough etiquette and hand hygiene is in the planning stages at this time.

Limitations

Public education campaigns that result in the adoption of the desired behaviour by the population are difficult to mount and to sustain.

6.6.3 Individual Case & Contact Management

Description

The rapid identification of persons with suspect illness due to a novel pandemic virus and their quick isolation at home or in hospital can reduce the potential for transmission of the novel virus to others within their home, work, school and/or social networks. The voluntary or enforced quarantine of contacts may be considered when the pandemic virus is first identified globally in the very earliest stages of the global pandemic. This is unlikely to occur in Canada.

Case and contact management make reference to the terms isolation and quarantine. These two words are often used interchangeably, but they have different meanings.

Isolation is used when a person is infected with an organism and capable of transmitting it to others. A person may be isolated in a hospital room or at home, depending on the severity of their illness. Isolation is continued as long as a person is infectious.

Quarantine is the restriction of the activities of healthy persons who have been exposed to an infection but who may or may not be infected themselves. People who are quarantined are restricted from their normal activities outside of their home for the length of the maximum incubation period of an infection.

Initiation Trigger

Pandemic Alert Period – Phase 3 and onwards– Novel virus activity is occurring within Canada or border states of the USA.

Responsibility for Case & Contact Management

Primary Care

Primary care clinicians or hospital clinicians seeing a patient with symptoms consistent with those of the novel virus are required to:

- Report suspect cases to Region of Waterloo Public Health at 519-883-2007 or through after-hours reporting number for Public Health.
- Obtain appropriate laboratory specimens for investigation & confirmation.
- Prescribe/provide antiviral drugs for empirical treatment of symptoms pending results of laboratory investigations if person is within 48 hours of symptom onset.

Public Health

Public health staff under the direction of the Communicable Disease Control Program would be responsible for:

- Contacting the person to initiate an investigation of activities and risk factors for acquisition of illness (recent travel or contact with other persons with similar illness).
- Advising on isolation recommendations (currently – adults to remain at home for 5 days and children to remain isolated for 7 days - from the onset date of first symptoms of illness).
- Ensuring antiviral drugs have been obtained/dispensed and are being taken appropriately.

- Advising on self-care while ill.
- Advising on how to safely access health care services if condition deteriorates so as to minimize risk of infecting anyone else (use of private transportation rather than public, use of a mask when entering a health care setting).
- Initiate a contact follow-up investigation to located persons who have had face-to face contact within 1 metre of a suspect or confirmed case.
- Report highly suspect cases for novel virus illness or laboratory confirmed to MOHLTC immediately.

Voluntary or enforced quarantine of contacts may be considered when the pandemic virus is first identified globally in the very earliest stages of the global pandemic. This is unlikely to occur in Canada unless the global pandemic originates in North America. If this is the case, advise identified contacts to quarantine themselves at home for a period of 3 days or duration of the incubation period of the novel virus (whichever is longer).

Local Status

Current Febrile Respiratory Illness (FRI) screening guidelines have been made available to all physicians, hospitals, long term care/rest/retirement homes and other community-based health care providers for the purpose of identifying isolated cases with significant travel history or clusters of FRI.

Communication channels have been established that allow RoWPH to rapidly communicate with clinicians in the community, hospital and other clinical settings to advise of any urgent communicable disease issues and to provide guidance on recognition and reporting of any suspect cases of infection with a novel influenza virus.

An after-hours reporting service is available to all clinicians in Waterloo Region with response from Public Health within 15 minutes.

Limitations

Case finding

Detecting cases of novel or pandemic influenza is not always simple or straightforward. A number of viruses that commonly circulate in a community have similar symptoms to seasonal and possibly pandemic influenza (fever, cough, fatigue etc). Depending on the time of year, distinguishing symptoms of a novel or pandemic strain of influenza from those of other respiratory viruses may be very difficult.

Laboratory testing is not routinely undertaken for most respiratory infections, especially in community clinician offices. Staff may not have access to the test kits or may be unfamiliar with the proper collection techniques for the required tests. If a person presents for care later in the course of their illness, rapid tests which rely on the presence of virus will not provide an accurate result.

Language barriers may result in incomplete histories or assessment of travel within an area of risk for novel virus acquisition.

Case Isolation & Quarantine of Contacts

Contacting and daily monitoring of the isolation of ill persons by public health staff is time-consuming and once case numbers increase to more than 20 per day, will be unsustainable to complete the investigations plus continue with case and contact active monitoring. At that time, staff efforts will be redeployed to broader community based disease control strategies and to providing other pandemic response activities.

Legal Orders

The use of legal orders will be explored as a potential tool in an outbreak. Voluntary measures will be employed as much as possible as a first choice. Legal tools will only be used when the benefit to the community outweighs the imposition on the individual, and the measure is necessary to protect the health of the public.

Refer to Table 5 for a summary of case and contact management activities.

Table 5: Summary of Case and Contact Management Activities

Canadian Pandemic Phase	Case Management	Contact Management (persons with face-to-face contact within 1 m of case)
<p>3.1 (Sporadic human infections with a new subtype in Canada)</p>	<ul style="list-style-type: none"> - Isolate adults for 5 days (young children for 7 days) or until symptoms have resolved, whichever is longer (or for period of communicability if known). - Active surveillance for those isolated at home (daily telephone contact) - Report individual cases to MOHLTC. - Facilitate laboratory testing. - Provide early treatment with antiviral medication and monitor effectiveness. 	<ul style="list-style-type: none"> - Active or passive surveillance by public health staff for symptoms for 3 days or duration of incubation period if known. - Consider asking to defer travel for duration of surveillance period. - Consider post-exposure antiviral prophylaxis for severe or unusual cases. - Assess annual influenza vaccine status (may recommend vaccine if available).
<p>4.1 or 5.1 (Limited human-to-human transmission. Small or large sporadic clusters of cases in Canada)</p>	<ul style="list-style-type: none"> - As per 3.1 above. 	<ul style="list-style-type: none"> - Active surveillance (by daily telephone contact) for symptoms for 3 days or duration of incubation period if known. - Voluntary quarantine or activity limitation to reduce contact with others. - Consider post-exposure prophylaxis with antiviral drugs for family and close contacts (those within 1 metre). -
<p>4.2 or 5.2 (Small or large <i>localized</i> cluster(s) are occurring in Canada but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible)</p>	<ul style="list-style-type: none"> - As per 3.1 above. - Report cases & clusters. 	<ul style="list-style-type: none"> - As per 4.1 or 5.1 above - For 5.2 assess “exposure sites” such as schools or workplaces and recommend self-monitoring for symptoms via announcements/letters (rather than individual-focused active surveillance).

Canadian Pandemic Phase	Case Management	Contact Management (persons with face-to-face contact within 1 m of case)
<p>6.1 (Single human cases with the pandemic virus detected in Canada)</p>	<ul style="list-style-type: none"> - As per 3.1 above 	<ul style="list-style-type: none"> - Self-monitoring for symptoms. - No quarantine. - Request deferral of travel for self-monitoring period. - Antiviral use as per national antiviral strategy for the pandemic period.
<p>6.2 (Localized or widespread pandemic activity observed in the Canadian population)</p>	<ul style="list-style-type: none"> - Public messaging on where, when and how to obtain medical assessment and (Flu Centres). - Antiviral treatment for those presenting within 48 hours of symptom onset and for whom it is determined to be medically necessary. - Recommend anyone ill with symptoms of influenza isolate themselves until 24 hours after symptoms have resolved or for period of communicability if known. - Public messaging on self-care (including isolation). 	<ul style="list-style-type: none"> - As per 6.1 above. - Additional public messaging. - No quarantine.

6.6.4 Community-Based Disease Control Strategies (Social Distancing)

At the start of an influenza pandemic, it will be unlikely that an effective vaccine will be available in quantities large enough to immunize and protect the majority of the population. Antiviral treatment will be the primary medical control measure available, especially for the first wave of influenza transmission within the community.

However, by reducing opportunities for the virus to be transmitted within the community by having people reduce or avoid contact with one another as much as possible, peak attack rates might also be lowered, fewer illnesses and deaths may occur, and the pressure on the health care system could be lessened.

Public Health Agency of Canada has recommended in the CPIP that the following measures be considered for implementation as community-based disease control measures:

1. Stay home from public events and locations (i.e. self-isolate) if a person has fever and new onset of respiratory symptoms.
2. Consider closure of schools and childcare centres.
3. Consider cancellation of indoor public gatherings which are considered “non-essential.”

The triggers for these measures would depend on the way in which a pandemic unfolds within a community.

Decision Making

In general, decisions about implementing these measures will be made by the Medical Officer of Health in consultation with public health staff, community partners and pandemic responders. Additional direction could also come from the Chief Medical Officers of Health of Ontario or Canada to ensure consistency of approach.

Public Education around Self-isolation and Self-care

The objective of public messaging is to provide the population with information that can assist them in deciding whether or not they should seek care or should avoid contact with others. The following key messages will be provided in a number of different formats (media, written materials, local web sites providing information on pandemic influenza, and through contacts on telephone information lines with individuals and organizations):

- Stay home from school or work if you have a fever and the new onset of symptoms of a respiratory illness (cough, congestion, nasal congestion etc.).
- Cover your mouth with a tissue or your sleeve when coughing or sneezing.
- Discard tissues immediately into the garbage.
- Wash hands after using and discarding of tissues.
- Stay at least 1 metre away from others in the household while at home.
- Seek assessment and treatment at designated Influenza Assessment, Treatment and Referral Centres as soon as possible after symptom onset.

Trigger

The trigger to encourage community members to adopt community-based disease control strategies is the arrival of one or more confirmed cases of pandemic influenza strain in Ontario.

Reinforcement of this message would occur on a regular basis through media messaging and communication. (refer to Chapter 18 on crisis communications).

Advantages

- Potential to reduce or decrease the number of people exposed to an ill person.
- Relatively easy to implement as a “recommendation for the public.”
- Likely to have high public acceptance.

Disadvantages

- Compliance will vary and will not be measurable.
- May result in unnecessary absenteeism if persons stay home and are actually ill due to other causes.
- Potential expectation for public health authorities to provide resources to “enforce” the recommendation.
- Certain populations may not be able to access media or the internet.
- Language barriers can be significant in this multi-cultural community.
- Some employers may not have sick-leave policies in place for pandemic situations and persons may feel compelled to be at work in order to maintain their income.

6.7 School and Child Care Centre Measures

The closure of schools and child care centres may effectively interrupt rapid transmission of the pandemic virus in these age-groups. However, this measure incurs considerable societal disruption as parents have to arrange for alternate care for children or may have to stay home themselves if alternate care is unavailable.

At this time, recommendations regarding use of informal child care have not been devised to guide parents in making alternative arrangements for care for their children.

Trigger

Current PHAC recommendations suggest declaration of one or more confirmed cases within the community, depending on the extent to which the school or pre-school aged population has contributed to transmission in other areas where the pandemic strain has already arrived.

In Waterloo Region, the following potential triggers and actions may be considered and recommended after consultation and planning with school board officials. It is recognized that the pandemic entry to Canada/Ontario/Waterloo Region may unfold in an entirely different manner and the triggers listed below would not be applicable, requiring adaptation of the actions/recommendations.

Table 6 presents a summary of actions and recommendations related to possible school and child care centre closures. The potential trigger point and rationale for adopting the measure is also presented.

Table 6: Potential Actions/Recommendations Related to Schools and Child Care Facilities

Trigger	Action/Recommendation	Rationale
Pandemic declared — Strain of influenza identified elsewhere in the world	<ul style="list-style-type: none"> • Communication with parents around potential for school or child care centre closures. • Reinforcement of messaging regarding keeping ill child home • Reinforce cough etiquette and hand hygiene for students & staff. 	<ul style="list-style-type: none"> • Parents will have opportunity to explore other child-care options. • Parents will have advance information regarding potential plans.
Arrival of pandemic strain in Canada or US	<ul style="list-style-type: none"> • Recommend that interschool sports activities be suspended for students (employees still able to travel between schools). • Recommend school field trips be cancelled. 	<ul style="list-style-type: none"> • Reduces the intermingling of different school populations. • Adults are able to assess their own health status
Arrival of pandemic strain in Ontario	<ul style="list-style-type: none"> • Recommend non-essential after school activities (clubs, sports etc) be suspended. • Reduce large gatherings within the school setting (cancel assemblies, have students eat lunches in class rooms, stagger recesses or lunches if possible). 	<ul style="list-style-type: none"> • Further reduces social networks of the students.
Arrival of pandemic strain in Waterloo Region	<ul style="list-style-type: none"> • Consider closure of schools and large day-care centres in consultation with other area medical officers/Chief Medical Officer of Health of Ontario. 	<ul style="list-style-type: none"> • Early closure of these settings may decrease transmission of influenza within the community.
Not determined at this point — would happen in consultation with school boards, MOHLTC and other partners	<ul style="list-style-type: none"> • Resumption of classes. • Possible restrictions on larger gatherings or other activities if pandemic activity still present at lower levels in the community. 	<ul style="list-style-type: none"> • Depending on the length of the pandemic wave, availability of vaccine and estimated attack rates – resumption of classes or care may occur before activity is over in an area.

Advantages

- Children are known to be the most efficient spreaders of influenza virus as they shed large amounts of virus for longer periods of time than an adult (up to 7 days).
- A planned reduction in school activities/mixing of students between schools may delay importation of influenza into the community.
- Removing children from their network of contacts at school may delay the spread of influenza to their siblings, parents and friends.
- Many parents may remove their children from school or care on their own initiative if they have concerns regarding the risk of their child acquiring influenza.
- Some schools or child care administrators may choose to independently close their facilities.
- The Medical Officer of Health has the legal authority to implement this measure locally.

- Some schools settings may be required for Influenza Assessment, Treatment and Referral Centres, early closure will reduce potential for students to mix with patients seeking care.

Disadvantages

- Alternate arrangement for child care will need to be made, which can lead to gatherings of children outside of the school setting.
- Essential workers may be diverted to child-care responsibilities.
- Some parents may be unable to arrange suitable child-care and children could be at risk when left alone at home or in a sub-standard arrangement.
- Disruption to the education year especially for older students preparing for secondary education.

Conclusion

This measure would be most effective if the pandemic causes high attack and illness rates in pre-school and school-aged children.

School boards are actively working on options to address the potential for closures. Additional modeling studies regarding the potential effectiveness of this measure are expected to be published in 2007 that may further inform the process or planning for this measure.

6.8 Recommendations Regarding Restrictions of Non-Essential Public Gatherings

The objective of recommending the cancellation of certain events or gatherings is in an attempt to avoid a sudden increase (spike) in the demand for health care services as a consequence of a number of people being infected at the same time due to efficient transmission at a large gathering. These cancellations must be balanced with the rights of people to determine what activities they wish to partake in, and the amount of disruption and anxiety that cancellation of events can cause.

However, in recent experience with Severe Acute Respiratory Syndrome (SARS) and a past community outbreak of meningitis, the community pressure to cancel events was significant. This may be an acceptable measure for a number of people who will self-select not to attend large gatherings due to the potential risk of acquisition of influenza.

Public Health Agency Canada only recommends this measure if high-risk gatherings can be identified.

Criteria that will be used by Region of Waterloo Public Health for consideration of potential cancellation recommendations:

- Is this an event at which a large number of more high-risk individuals will be congregating for an extended period of time?
- Are the organizers of the event able to implement any social distancing mechanisms (keeping people seated farther apart, hand hygiene available, information on self-screening for illness etc.)?
- Will cancellation of the event cause significant public disruption?
- Are alternative services in place?
- Is it feasible to cancel the event?

Trigger

When sustained transmission of the pandemic strain is occurring within the community.

Advantages

- Decreases the number of venues in which spread to a large number of people is possible.

Disadvantages

- Causes societal disruption.
- Negatively impacts business owners and employees who may be laid off due to cancellations of events.
- Sustainability for the duration of the pandemic wave may be problematic.

Essential Services

During an influenza pandemic there may be services and gatherings that would be considered to be essential and would not be recommended for closure or cancellation. This includes, but is not limited to:

- Grocery stores.
- Public transportation (mass transit, taxis).
- Shelters for homeless or vulnerable populations.
- Church functions (funerals, services — although some optional group activities such as youth group activities or Sunday School might be postponed if feasible to reduce transmission within pre-school & school-aged children).

6.9 Travel and Border-Related Measures

Responsibility for matters relating to international travel and potential control measures at borders or arrival entry points such as airports during a pandemic is the responsibility of the Federal Government under the authority of the *Quarantine Act*.

The Public Health Agency of Canada will work with the World Health Organization around the issuance of advisories or warnings to travelers once human infections of a possible or confirmed pandemic strain occur in specific international geographic regions. These warnings are posted on the PHAC website and are communicated through the media and email to designated travel clinic sites, including the International Travel Clinic at RoWPH.

Information regarding potential measures that could be introduced at airports receiving international travelers can be reviewed in Annex M of the Canadian Pandemic Influenza Plan (November 2006). Region of Waterloo Public Health will work with the administrative staff of the Region of Waterloo International Airport to ensure the application of any directives or measures from the Federal Government.

Communication to the public around any travel related warnings or advisories will be done as part of the ongoing efforts to share information and to advise on public health measures for all residents in Waterloo Region.

At this time it is unlikely that air travel will be restricted during an influenza pandemic, but it remains a distinct possibility.

6.10 Reporting Community Compliance with Measures to the MOHLTC

The 2006 OHPIP includes a requirement for reporting of community compliance with public health measures to the MOHLTC. At this time, there are no reporting indicators or forms developed by the MOHLTC for this purpose.

6.11 Interventions or Public Health Measures Unlikely to be Recommended:

During disease outbreaks, there is usually a great deal of public and political pressure to implement a number of measures perceived to provide reduction in the transmission of a disease. However, a number of these measures may be ineffective or of very limited effectiveness at most.

As a pandemic will stretch all existing health care resources, it is important that scarce human resources be allocated to activities which will have the most benefit for the greatest number of people within the community.

Efforts at applying the science of mathematical modeling to predict the potential effectiveness of these different interventions will assist in future planning and possible adoption or rejection of different public health measures.

At this time, based on expert consultation, opinion and in absence of any supporting evidence as to effectiveness, the following measures would not be recommended for implementation in Canada (see CPIP – Annex M). These measures will not be considered as a public health measure in responding to a pandemic in Waterloo Region:

Table 7: Public Health Measures that will not be recommended during a Pandemic

Measure	Rationale for not considering/adopting this measure
Use of masks by well individuals	<ul style="list-style-type: none"> - Not feasible to wear masks constantly for the duration of pandemic wave. - May provide a false sense of security . - Hands and other surfaces may be contaminated when mask is removed (with risk of subsequent self-inoculation of virus). - May limit availability of masks in health care settings where they are required/needed.
Implement new hand-sanitizing stations in public settings (e.g. malls, public transit)	<ul style="list-style-type: none"> - Effectiveness depends on public compliance. - Does not protect against droplet spread via coughs and sneezes - Requires human and financial resources to keep stations adequately supplied. - Resources could be better utilized in maintaining and supplying existing public washrooms.
Increase frequency of cleaning of surfaces in public settings	<ul style="list-style-type: none"> - Requires resources to maintain cleanliness. - The frequency of hand contact with various “public” surfaces would require virtually contact cleaning to have any effect on reducing number of micro organisms on surfaces.

Measure	Rationale for not considering/adopting this measure
Urge entire population in an affected area to check for fever at least once daily	- A potential measure that could decrease the interval between symptom onset and initiation of isolation; however, this has not been effective in other situations.
Introduce thermal scanning into public places	- Experience has not shown this measure to be effective. - Expensive to set up and operate.
Widespread environmental or air disinfection	- Not practical. - Unproven effectiveness.
Disinfect clothing, shoes or other objects of persons exiting affected areas	- Not recommended for public health purposes. - Influenza virus is not sustained on these items for any length of time. - Measure may be required by veterinary authorities to prevent spread of infection to animals or birds.
Restrict travel to and from affected areas	- Enforcement considered impractical. - Increases societal disruption.
Cordon sanitaire (setting up a barrier to stop a disease from spreading)	- Enforcement considered impractical. - Huge societal disruption.

6.12 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding public health measures include:

- Monitor and review future research as well as directives provided in the Canadian Pandemic Influenza Plan and Ontario Health Plan for an Influenza Pandemic.
- Revise Waterloo Region's public health measures strategy as information and updates become available.
- Inform stakeholder organizations and the general public of public health measure strategies that may be used during an influenza pandemic.

6.13 References and Supporting Documentation

Caley, Peter, Niels G. Becker, and David J. Philp. "The Waiting Time for Inter-Country Spread of Pandemic Influenza." Public Library of Science ONE 2(1) (2007), pp. 2-8.

Ferguson, Neil M., Derek A. T. Cummings, Christophe Fraser, James C. Cajka, Philip C. Cooley and Donald S. Burke. "Strategies for Mitigating an Influenza Pandemic." Nature 442 (2006), pp. 448-452.

Government of Canada. Canadian Pandemic Influenza Plan. Public Health Agency of Canada. December 2006.

Government of Ontario. "Chapter 6: Public Health Measures — Managing the Spread of Influenza." Ontario Health Plan for an Influenza Pandemic. Ministry of Health and Long-Term Care. September 2006.

Institute of Medicine of the National Academies. Modeling Community Containment for Pandemic Influenza: A Letter Report. National Academy of Sciences. 2006.

Markel, Howard, Alexandra M. Stern, J. Alexander Navarro, Joseph R. Michalsen, Arnold S. Monto and Cleto DiGiovanni Jr. "Nonpharmaceutical Influenza Mitigation Strategies, US Communities 1918-1920." Emerging Infectious Diseases 12 (12) (2006), pp. 1961-1964.

7 ANTIVIRAL PROCUREMENT, DISTRIBUTION AND USE

Antivirals are anti-influenza drugs that can be used to treat and prevent influenza (OHPIP, 2006). As a key disease management strategy for pandemic response, the Public Health Agency of Canada (PHAC) and Ministry of Health and Long-Term Care (MOHLTC) continue to develop a stockpile of antiviral drugs to be used in a targeted manner. The provision of antiviral drugs may be particularly important before a pandemic vaccine is available, and for those persons who cannot be immunized due to medical contraindications.

The susceptibility of the pandemic strain of influenza to antiviral drugs will not be known until the strain evolves and is identified. It is possible that a pandemic strain could evolve, and be resistant to specific antiviral drugs. It could also be possible that resistance to antivirals could develop as the pandemic progresses. As with any drug that is used in disease management, correct use by clinicians and recipients, along with surveillance for any evidence of drug resistance will be paramount to ensure this valuable measure remains an effective tool.

Antivirals are currently available through pharmacies for the prevention and treatment of seasonal influenza. Their primary use has been to control outbreaks in health care and long term care homes, so the quantity of these drugs is limited. However, to be able to ensure adequate supplies are available in the event of a pandemic, a national stockpile has been established and senior levels of government continue to purchase additional supplies. It would be expected that private market access to antivirals would not be possible or would be severely limited once a pandemic strain of influenza is identified.

7.1 Classes of Antiviral Drugs

There are presently two classes of antiviral drugs that are approved for use in Canada for the prevention and/or treatment of influenza infections: neuraminidase inhibitors and M2 ion channel inhibitors.

Neuraminidase Inhibitors

There are two different neuraminidase inhibitors approved for use in Canada (oseltamivir [Tamiflu] and zanamivir [Relenza]). Both drugs are well tolerated and have been used effectively for the treatment and prevention of influenza A and B infections. They have been effective against the H5N1 strain of avian influenza in laboratory simulations.

M2 ion channel inhibitors

There is currently one M2 ion channel inhibitor (amantadine) approved for use in Canada. It is only effective for the treatment or prevention of influenza A. Side effects with this drug are common, especially for persons with decreased renal function. Most significantly though, resistance to this drug develops rapidly. Most of the H5N1 avian influenza viruses have been found to be resistant to M2 ion channel inhibitors.

Due to the issues of drug resistance associated with M2 ion channel inhibitors, PHAC has recommended that only neuraminidase inhibitors be stockpiled and used during a pandemic.

7.2 National Antiviral Stockpile

A national stockpile of antiviral medications from the neuraminidase inhibitor class has been established to ensure equitable and secure access to these drugs for all people across Canada.

An initial stockpile of 16 million doses was achieved in 2004 through a joint federal and provincial/territorial purchase of oseltamivir. In 2006 it was recommended that the size of the stockpile be increased to 55 million doses or 5.5 million treatment courses of neuraminidase inhibitors. It is estimated that this target could be achieved by early 2007.

When the stockpile is completed, it will be composed of approximately:

- 90% oseltamivir (Tamiflu)
- 10% zanamivir (Relenza)

The current numbers of treatment courses stockpiled is based on the current dosage recommendations for use of these drugs in the treatment and prevention of seasonal influenza. *It is important to note that dosage adjustments (a higher dose or a longer treatment period) may be required for a pandemic strain of influenza. This adjustment would alter the total number of treatment courses available for distribution.*

Distribution of the current stockpile has been done on a per capita basis to each of the provinces/territories.

7.3 Potential Strategies for use of Antiviral Drugs during a Pandemic

Antiviral drugs can be effectively used in several different ways depending on the pandemic phase and the type of group being considered. The options include:

- Treatment of illness in specific groups or across the population.
- Prophylaxis (prevention).
- Post-Exposure Prophylaxis.

7.3.1 Current National Strategy for use of Antivirals

Early Treatment Strategy

It is the current goal of PHAC and the MOHLTC to be able to secure enough antiviral medication to be able to provide a treatment course of the drug(s) to 25% of the population as recommended by the World Health Organization (WHO).

Treatment with neuraminidase inhibitors has been shown to decrease severe complications such as pneumonia and bronchitis and to reduce hospitalizations.

When administered as early as possible, ideally within 12 hours after the start of illness but definitely within 48 hours of onset, studies have shown oseltamivir therapy provides:

- 25-30% reduction in symptom duration plus a reduction in illness severity.
- 59% reduction in hospitalizations.
- 63% reduction in antimicrobial drug use.
- 1 day reduction in lost work days under treatment.

Appropriate use of this targeted approach during the pandemic may reduce the number of illnesses and deaths, thereby diminishing the overwhelming demands that could be placed on the health care system.

The selection of a treatment strategy recognizes that treatment is more efficient than prophylaxis in preventing adverse health outcomes. Treatment uses less medication and focuses this intervention on those who are ill and will directly benefit from the drug.

It will be extremely important to monitor the use of antiviral medications. While these medications are already in use during regular influenza seasons, there are no data available at this time on the large scale use of these medications in a pandemic situation (for side effects, resistance, etc.).

Prophylaxis

There are ongoing consultations on developing a national policy for the potential use of a targeted prophylaxis strategy to maintain essential or critical services. The PHAC recognizes there are systemic, scientific, economic, societal/ethical, legal and policy considerations that need to be explored in relation to future policy decisions regarding the use of the National Antiviral Stockpile for prophylaxis (CPIP, November 2006).

Prophylaxis requires a greater amount of medication because it requires administration over a long period of time (6 to 8 weeks). There are also challenges to the implementation of a prophylaxis strategy, including the identification of eligible personnel, the need to adjust the timing to local epidemiology, compliance and the potential for drug diversion.

The previous strategic planning framework for pandemic influenza and the 2005 OHPIP included priority groups for prophylaxis. An enumeration process was undertaken by Region of Waterloo Public Health in early 2006 to provide estimates of the numbers of persons potentially eligible for prophylaxis. This information will be retained for future reference. However, current planning in Waterloo Region will align with direction from PHAC and the MOHLTC. The 2006 OHPIP states that “**Ontario will use its supply primarily for treating people who are ill**” and removed the priority groups for prophylaxis purposes.

The Medical Officer of Health for Waterloo Region does not recommend that individuals or organizations stockpile antivirals for prophylaxis use during an influenza pandemic.

7.4 Responsibility for Antiviral Prioritization Strategy

Public Health Agency of Canada is responsible for establishing the strategic use and associated priority groups to receive antiviral medication during a pandemic. It is impossible at this time to know which groups of persons may be most adversely affected when the pandemic influenza strain emerges. ***As epidemiologic data becomes available on a specific pandemic virus, it is possible that guidelines or strategies could change in relation to antiviral use.***

The Ministry of Health and Long-Term Care and Region of Waterloo Public Health and its health care partners will follow these directives to ensure that a consistent approach for antiviral use is achieved across all provinces and territories. This is extremely important in ensuring public confidence and preventing the perception of inequity.

7.5 Antiviral Distribution in Waterloo Region

This section of the CPIP outlines the distribution and use of antiviral drugs in Waterloo Region during an influenza pandemic. It will outline the current strategies available for the use of antiviral medications, including the timing of use and facilities or settings in which they will be offered or distributed.

The Ministry of Health and Long Term Care is responsible for distribution of antivirals to health units in Ontario. Upon receipt of the antivirals, Region of Waterloo Public Health will become responsible for further distribution of the antivirals to clinicians in the agreed-upon settings.

This responsibility will include accountability for:

- Secure storage.
- Transport to designated clinicians or Influenza Assessment, Treatment and Referral Centres (Flu Centres).
- Tracking of uptake/numbers of treatment courses initiated.
- Surveillance of any adverse events associated with use of antiviral.

7.5.1 Planning Objectives for Antiviral Distribution in Waterloo Region

- Secure local storage
- Develop an inventory system to track and manage supply
- Devise a distribution system to provide supply to designated sites (hospitals, Influenza Assessment, Treatment and Referral Centers [Flu Centres], long term care homes)
- Track the of number of antiviral drug courses distributed
- Report line/number for adverse events associated with antiviral treatment

7.5.2 Provincial Antiviral Distribution Plan

The 2006 OHPIP has indicated that the province will establish a storage and distribution system for antivirals that will ensure access within 48 hours in all parts of the province. Details of the distribution plan remain to be worked out provincially. Details will be communicated to local planners upon its completion.

Additional tools to be developed at the provincial level include:

- Fact sheets on antivirals.
- Antiviral comparison chart.
- An algorithm for antiviral treatment.
- Guidelines for handling and managing antivirals including dispensing procedures and how to limit wastage.
- Clinical guidelines for antiviral use and patient care in health care settings.

Assumptions

- Central stockpile in Ontario will allow for rapid distribution to health units.
- Small pre-positioned supply in Waterloo Region as pandemic strain is identified to allow for treatment of isolated cases and possible post-exposure prophylaxis of their contacts in Canadian pandemic phases 3.1, 4.1 and 5.1 (proportion of stockpile to be used in these phases still to be determined by Public Health Agency Canada).

- Additional supply to health units will be based on equal distribution based on population as pandemic wave hits Canada (estimated currently to be approximately 125,000 treatment courses).
- Once the pandemic strain is identified in Canada, Waterloo Region will open Flu Centres in a tiered response plan.

7.5.3 Distribution of Antivirals in Waterloo Region – Canadian Pandemic Phase 6.1 & 6.2

Influenza Assessment, Treatment and Referral Centres (Flu Centres)

In Waterloo Region, antivirals will primarily be distributed in the Influenza Assessment, Treatment and Referral Centres (Flu Centres) once these centres are operational. This will allow for consistent application of clinical assessment criteria, patient education on the medication, and dispensing of the medication directly to the patient.

Prior to the initiation of these centres, hospital pharmacies will be supplied with a supply of antivirals in order to facilitate the initiation of early treatment in any suspected or confirmed patients ill with the novel pandemic influenza virus.

Outbreak Control within Long Term Care Facilities

A portion of the antiviral supply (still to be determined) will be retained for use in outbreak control of pandemic influenza within long term care & rest/retirement homes. Current guidelines for influenza control recommend treatment of symptomatic cases if within 48 hours of onset and the provision of prophylaxis for a period of 10 to 14 days to all residents and un-immunized staff within the home or unit.

7.5.4 Containment during the Pandemic Alert Period

Should antiviral medication be required for treatment or prophylaxis of contacts for novel influenza strains prior to the declaration of a pandemic, the Region of Waterloo Public Health Communicable Disease Control Program staff would work with the Infectious Disease Branch of the MOHLTC to arrange for rapid delivery of antiviral medication from the provincial stockpile if indicated. The medication would be dispensed directly to the patient or clinician providing care.

7.6 Monitoring of Antiviral Use

A provincially developed electronic inventory system (BIOS) is currently in place at RoWPH to track the distribution of publicly funded vaccines. This inventory system can be used to track the receipt and distribution of antiviral medications to Flu Centres and any other approved clinicians or facilities within the Region of Waterloo.

Once Flu Centres are opened, a daily tally of numbers of doses provided along with possible demographic data on distribution (by age, postal code, etc.) will be collected from the primary assessment forms that will be completed for each person attending the centre. This data collection will be coordinated by designated public health staff and any required statistics on daily use will be reported to the MOHLTC.

A fact sheet on the medication (to be developed once dosing decisions are known) and a number to call to report any adverse events associated with taking the medication will be provided to clients. Adverse events will be reportable to Region of Waterloo Public Health in

order to rapidly identify any new issues or rare side effects that may not have been identified in prior experience or studies. Reporting to the MOHLTC will occur on a priority basis of any adverse events. Provincial reporting mechanisms (use of the Integrated Public Health Information System [iPHIS] or another system) have not been finalized at this time.

7.7 Monitoring for Development of Drug Resistance to Antivirals

The development of resistance to neuraminidase inhibitors is possible when large numbers of persons receive treatment. Monitoring for the development of resistance is primarily a function of the Public Health Laboratory in cooperation with Public Health Agency of Canada.

When laboratory tests completed on an ill person test positive for influenza, a selection of these cultures are sent for further testing to determine if the virus shows resistance to antiviral drugs. This testing will continue through the course of the pandemic to monitor for any new resistance developments. Information on the results of these resistance tests are shared with national and provincial officials. Public Health Agency of Canada will provide direction on any issues related to the emergence of resistant strains of pandemic influenza and the use of antivirals.

7.8 Outstanding Issues

PHAC outlines a number of key antiviral issues still to be addressed which would have significance in the implementation of antiviral distribution locally in Waterloo Region including:

- Federal/Provincial/Territorial consensus on inclusion or exclusion of prophylactic indications.
- Updating the clinical guidelines for the use of antivirals.
- Development of communication materials for health care providers and the public on the appropriate use of antiviral drugs.
- Guidelines for delivery and administration of antivirals including security, monitoring of drug distribution, uptake and wastage.
- Use of diagnostic tests in guiding antiviral treatment.
- Protocol for monitoring antiviral drug resistance.
- Review of the adverse reaction reporting and monitoring system to identify the need for any pandemic enhancements.
- Modeling the impact and cost benefit of different strategies for the use of antiviral drugs
- Ongoing consideration of the optimal antiviral strategy and deployment based on new scientific developments.
- Protocols for monitoring the shelf life of the antiviral stockpiles.
- Considerations of potential off-label use of antivirals (using the drugs for different indications than they have been currently licensed for).

Source: Canadian Pandemic Influenza Plan (Annex E), November 2006.

7.9 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding antiviral procurement, distribution and use include:

- Develop an antiviral storage and distribution plan based on information and guidance provided by the Ministry of Health and Long-Term Care.
- Consult with the Waterloo Regional Police Service to determine a strategy to ensure security during transport and storage of antivirals.
- Consult with partners (e.g. Flu and Convalescent Centre Advisory Committee, acute care facilities, long term care homes) to develop an antiviral treatment and distribution plan for Waterloo Region.
- Ensure the necessary infrastructure is available to execute the treatment and distribution strategy, which can also be implemented on short notice.

8 MASS IMMUNIZATION

Health emergencies, such as a widespread outbreak of infectious disease (e.g. influenza pandemic) may necessitate the need to rapidly mobilize public health resources to provide vaccines or other prophylactic medications to large numbers of people. Mass immunization programs are an effective prevention strategy to decrease the extent of an outbreak and spread of a pandemic, as well as to reduce illness and death. During an influenza pandemic the goal will be to vaccinate the entire population over a period of months (once it becomes available), on a prioritized basis. Public health units are responsible for the mass distribution of these vaccines to their local community in response to outbreaks.

In Waterloo Region several large scale mass immunization campaigns have been implemented in recent years, particularly during the outbreaks of meningococcal meningitis and measles. These campaigns provided valuable insights into planning and identified the need for a mass emergency response immunization plan for any type of infectious disease. Experience with these and other mass immunization campaigns have demonstrated that the community response (and the immunization rates or “uptake”) in these circumstances is positive.

8.1 Goals and Objectives

The goal of this mass immunization plan is to mobilize the internal mechanisms, staff and resources within Region of Waterloo Public Health (RoWPH) to respond to an outbreak of an infectious disease (such as a pandemic), and provide mass immunization to residents in a timely and efficient manner in order to minimize illness and death.

The main objectives of this mass immunization plan are:

1. To provide immunization safely, and as quickly as possible, in order to prevent or contain the spread of disease and protect the community.
2. To manage and track the storage, allocation, distribution and administration of immunizations, as well as supplies and clinical equipment securely, efficiently and appropriately.
3. To document the administration of vaccines, report on any adverse effects and monitor the safety and effectiveness of the immunization campaign.
4. To identify and secure clinic sites that will best suit the distribution of pandemic vaccine to large numbers of people.

Given current manufacturing capacity in Canada, Region of Waterloo Public Health would anticipate receiving an approximate allotment of 100,000 doses of pandemic influenza vaccine monthly (once it becomes available). If a two dose immunization schedule is required for pandemic influenza, Region of Waterloo Public Health is planning mass immunization clinics, to be held each month the vaccine is shipped. Based on current population status it could take up to eight to 10 months to cover the entire population of the region.

8.2 Preparedness and Planning for Mass Clinics

Preparedness for mass immunization clinics involves planning for the safe and secure storage, distribution, and administration of pandemic influenza vaccine. Planning is based on assumptions and consideration of several unknowns:

1. The extent and severity of pandemic influenza.
2. Who will be most at risk for severe outcomes of pandemic influenza?
3. Who will be the priority population(s) to receive the vaccine?
4. When or how much vaccine will be available?
5. How many doses of the vaccine will be required to provide protection?

The Province of Ontario is responsible for securing the pandemic vaccine and immunization supplies for Ontario residents. The Ontario Health Plan for an Influenza Pandemic (OHPIP) includes the development of a strategic plan for distribution of pandemic vaccine to local public health units, when it becomes available. Upon receipt of the vaccine, Region of Waterloo Public Health will become responsible for vaccine distribution. This will include accountability for tracking vaccine supplies and maintenance of cold chain; vaccine security; organization of mass immunization clinics; and, administrative logistics. This will also include surveillance for Adverse Events Following Immunization (AEFI) (refer to Chapter 5).

The vast majority of vaccine is expected to be administered at mass immunization clinics. In limited circumstances those organizations who have established relationships with Public Health, and have the necessary organizational capacity may administer vaccine to their own staff and/or residents. This might include local hospitals and long term care homes. This will be carried out with support and assistance from Public Health, as needed.

8.3 Priority Groups

In the event of a pandemic, the federal Pandemic Influenza Committee (PIC), which includes representation from the National Advisory Committee on Immunization (NACI), will make recommendations to federal/provincial/territorial governments on priority groups for immunization based on the epidemiology of the pandemic strain. The provincial goal is to obtain enough vaccine for the entire population, but in the early stages of the pandemic, the vaccine may not yet be developed. Once developed, the manufacturing capacity will limit the vaccine's availability. RoWPH will follow national and provincial guidelines and recommendations for priority groups for influenza immunization to determine the order in which population groups will receive pandemic vaccine. Interpreting these guidelines for local use, establishing eligibility criteria for vaccine administration and clearly communicating this to residents of Waterloo Region will be a critical part of the role of RoWPH.

The 2006 iteration of the Canadian Pandemic Influenza Plan (CPIP) provides the following recommendations regarding priority groups for pandemic vaccination program implementation:

- | | |
|----------|--|
| Group 1: | Health Care Workers, Public Health Responders, and Key Health Decision Makers |
| Group 2: | Pandemic Societal Responders and Key Societal Decision Makers |
| Group 3: | Persons at High Risk of Severe or Fatal Outcomes Following Influenza Infection |

Group 4: Healthy Adults

Group 5: Children, 24 months to 18 years of age

As per the CPIP (Annex D, 1), “the priority groups will need to be reassessed and possibly altered to ensure that they are consistent with the overall goal of the pandemic response, as soon as epidemiologic data on the specific pandemic virus becomes available.”

Based on direction from the MOHLTC in 2005, RoWPH completed an enumeration process which provided useful information on the number of health care workers, emergency responders, and persons at risk in Waterloo Region. The data will be useful when priority groups are finalized, and RoWPH determines eligibility criteria for mass immunization during an influenza pandemic (based on federal and provincial guidelines).

8.4 Activation of the Mass Immunization Plan

Mass immunization clinics will be initiated in Waterloo Region when vaccine is available and when direction to do so is given locally, provincially and/or nationally.

8.5 Clinic Site Selection

The size and type of facilities required for mass pandemic immunization clinics will depend on the specific number and type of population served. Ideally, sites will be centrally located within each municipality with access to bus routes, access/amenities for persons with disabilities, optimal vehicular access, adequate parking facilities and other appropriate amenities. Currently RoWPH utilizes a variety of community sites for mass immunization clinics related to the yearly Universal Influenza Immunization Program (UIIP). The selection of facilities for mass immunization clinic sites will consider many criteria, as identified in the Initial Facility Profile for Mass Immunization Clinic, Follow-up Checklist for Mass Immunization Clinic and Clinic Set-up and Design — Site Visit Checklist (Appendices 4 , 5 and 6, pages 209-211).

8.6 Supplies

The Ministry of Health and Long-Term Care is responsible for procuring the vaccine needed for Waterloo Region. Plans also include the provincial stockpiling of equipment necessary to administer pandemic vaccine at RoWPH clinics. Current RoWPH efforts include the maintenance of a stockpile of immunization equipment to cover our usual needs for approximately one month. Secure sites have been identified to appropriately store supplies as well as vaccine in compliance with the MOHLTC vaccine storage and handling guidelines.

The annual Universal Influenza Immunization Program (locally) provides immunization for about 2000 people (daily) at mass immunization clinic sites. Emergency immunization clinics will be based upon the experience with these clinics. Basic clinic supplies will be based on a “clinic in a box” concept, which will contain supplies for 2000 people to be expanded or decreased as needed (Appendix 7 — “Clinic in a Box” – Mass Immunization Supply List for 2000 Individuals, p. 212).

8.7 Staff Resources and Roles

Clinic plans involve staffing models with flexible options based upon clinic size, the availability of ROWPH staff, redeployed skilled personnel and/or volunteers, and availability of vaccine. In

order to meet staffing requirements, alternative skilled immunizers other than RoWPH nurses may need to be considered.

8.8 Clinical Responsibility for Screening

Provincial guidelines, which have been developed for screening of influenza like illness (ILI) and febrile respiratory illness (FRI), will be used in all clinical settings during the pandemic. According to the guidelines, upon initial contact, each individual will be screened for symptoms and appropriate measures will be undertaken to prevent spread of illness. An algorithm has been developed for mass clinic set up to triage and redirect symptomatic individuals immediately. Any ill individuals (as defined during a pandemic) will be advised to return when they have recovered.

8.9 Clinical Staff Roles

Briefly, clinical staffing roles include the following:

Clinic Resource Team

The Associate Medical Officer of Health (or designate), along with a supporting group of RoWPH staff will be prepared to answer and respond to clinical management questions. This group will be accessible to clinic staff by cell phone or land line phone. Concerns arising that may require consultation include clarifying contraindications, medication interactions, medical status concerns, or other medical issues requiring further investigation prior to or after immunization.

Site Manager

This person will head up the overall management of clinic operations and staff. Coordination and overall communications with RoWPH headquarters, or decision-makers and the media may also be a focus.

Clinical Team Manager and Team Leaders

A clinical manager will: oversee the entire clinical set up and staffing requirements; manage time sheets and sign in; and deal with any queries that may require policy decision making. Several clinical team leaders will be assigned to each clinic. One team leader will be available for: orientation of new staff to the site; briefing of all staff with new updates, including maintaining a communications booklet; rotating staff through lunch and breaks; and, troubleshooting any back log of clients in and around immunization stations. Another team leader will be available at the vaccine preparation area, overseeing the supply of vaccine to immunization stations, ensuring the maintenance of cold chain, and monitoring the adverse reaction/recovery area.

Nursing Staff

A large number of nursing staff and/or personnel with appropriate influenza care competencies will be required for clinics to ensure informed consent and safely administer immunizations. The number of staff required will vary according to the size of clinics with appropriate breakdown of roles. Clinical nursing judgment will be instrumental in triaging, health screening, dealing with unexpected reactions, and implementing optimal infection control.

Assisting Staff

Administrative support staff will be required for registration and the collection, computer input, and collation of immunization data. The number of staff required will vary according to the size of clinics with appropriate breakdown of roles.

Volunteer Staff

A volunteer coordinator will oversee the volunteer staff assisting with clinic operations. The volunteer coordinator will be responsible for: orientation of new volunteers to the site; briefing all volunteers with new updates; sign in and out of volunteers; rotation of volunteers through lunch and breaks; and, any necessary trouble shooting. Volunteers will help the clinic run smoothly and efficiently and may also act as interpreters for individuals with reading or language challenges.

Security

During the initial phase of the pandemic, when vaccines are expected to be in short supply, the safe distribution and transportation of vaccine and supplies will be managed with the assistance of security personnel. The security staff will also be at mass immunization clinic sites to ensure vaccine security and orderliness.

For further detailed information on staffing roles refer to Appendix 8 — Proposed Mass Immunization Clinic Staffing Plan (p. 214).

8.10 Infection Prevention and Control/ Bio-Hazardous Waste Disposal

Because of the numbers of people at immunization clinics, special attention to infection control will be required. All individuals will be asked to use alcohol based sanitizer before proceeding into the clinic. Staff at immunization stations will use alcohol-based hand sanitizer between each immunization. All surfaces will be cleaned with an appropriate disinfectant when visibly soiled and after each clinic. Routine precautions are used as a general principle at all clinic sites, and will be enhanced during the pandemic as required and recommended by provincial guidelines and standards.

Clinic staff will be trained and advised regarding RoWPH policy and procedures on appropriate infection control measures and the handling and disposal of clinic bio-hazardous waste materials, including sharps. RoWPH will follow all legislated health and safety regulations to ensure staff and volunteer safety.

For more information refer to Chapter 13 on infection prevention and control.

8.11 Documentation

All documentation collected at Mass Immunization centres will be collected in accordance with legislative and College of Nursing Standards' requirements.

Individuals will be given a record of the immunization they received and advised that this will be their certificate of immunization and may be required for workplace and other possible "proof of immunization" requirements (i.e. for second dose).

The province is developing guidelines for a vaccination consent form and those guidelines will be incorporated into the local development of a consent form for use during pandemic influenza immunization clinics.

8.12 Adverse Events Following Immunization Forms/Follow-Up

A number of adverse reactions are inevitable in any immunization campaign, in spite of screening measures. Being prepared to manage and deal with adverse reactions at all clinic locations will include:

- Protocols for screening out of seriously ill recipients, based on case definitions and medical directives provided by the province;
- A post immunization waiting area where individuals will be monitored by trained staff for any acute adverse reactions and treated as appropriate;
- Anaphylaxis kits including necessary response medications and equipment; and,
- Pre-arranged protocols for the transport of individuals to an emergency department as needed and communication protocols to inform acute care facilities when cases are en route.

8.13 Improving Language Access

Waterloo Region, as a multicultural centre, will require translation of forms and interpretation at mass clinics. Communication of general information will be in accordance with RoWPH access and equity policies. Forms will have instructions in multi-languages. People with language concerns will be encouraged to have volunteer interpreters available to ensure effective communication and understanding.

8.14 Operational Details

All other operational details pertaining to Mass Immunization clinics will be developed as part of the Public Health Internal Pandemic Plan. This includes information on:

- Clinic Flow Pattern and Immunization Clinic Set Up
- Education and Staff Training
- Documentation
- Logistical Management and Reporting of Statistics

These guidelines will be used by Region of Waterloo Public Health staff as they work to establish Mass Immunization clinics during an influenza pandemic (refer to Appendix 9, p. 217). These guidelines will continue to evolve in future stages of the planning process.

8.15 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding the mass immunization plan include:

- Investigate and determine potential clinic sites and develop the necessary agreements regarding the use of the facilities.

- Consult with the Waterloo Regional Police Service regarding security plans for mass immunization clinics and vaccine transport.
- Ensure mass immunization clinic operational details include provisions for a two dose vaccine.
- Refine Region of Waterloo Public Health's mass immunization clinic staff training manual. Assess the need for staff cross-training at Region of Waterloo Public Health; implement cross-training programs if required.
- Determine the information technology requirements to support the efficient operation of the mass immunization clinics.
- Develop a strategy to provide supports for populations requiring additional support at mass immunization clinics (e.g. individuals who require translation).
- Develop a protocol or dispute resolution process to resolve eligibility concerns and disputes regarding vaccine provision.
- Assess the capacity of other organizations to work in mass immunization clinics.
- Work with adjoining municipalities and health units to streamline vaccine administration across regions.

PART III:

HEALTH AND SUPPORT SERVICES DURING AN INFLUENZA PANDEMIC

9 HEALTH SERVICES

No one can predict the severity of the next influenza pandemic. Even if the region is faced with only a moderate event, Waterloo Region's health care system will be overwhelmed. Primary care (physician) offices will not be able to cope with the number of patients requiring care, and hospitals will find it difficult to sustain their operations given the increase in patient visits to emergency departments. The ability of the health care system to respond could be further compromised as staff in these organizations (as well as their family members) could also become ill with influenza. To prepare for this emergency, the health care system will require novel ways of providing care to members of the community, particularly in acute (hospital) settings. In addition to these novel solutions, individuals and families will need to care for friends, family and loved ones. This will help alleviate the burden on the health care system as the majority of influenza cases will likely present with symptoms that can be managed with self-care materials in the home.

Following from the provincial guidelines laid out in the September 2006 iteration of the Ontario Health Plan for an Influenza Pandemic (OHPIP), Region of Waterloo Public Health, and its community and acute care-based health partners, have agreed to establish both Influenza Assessment, Treatment, and Referral Centres ("Flu Centres") and Convalescent Care Centres during an influenza pandemic. Every effort will be made to ensure that community-based resources, such as these frontline assessment and treatment centres, are activated and utilized to triage mild cases of pandemic influenza away from acute care facilities. This will permit hospital resources to be devoted to the more severely afflicted flu patients, and "everyday" emergency room cases. In addition, acute care-specific guidelines and tools are required for those patients exhibiting severe symptoms and/or complications arising from the pandemic virus.

This chapter will be divided into four parts. First, the chapter highlights how the health care system will coordinate its response efforts. Second, the chapter will outline the role of community health services and acute health services during this health emergency. Finally, the patient flow process will be outlined. This process highlights how individuals and families will access health care and other support services (i.e. community and acute) during a pandemic.

9.1 Coordinating the Response Effort

An influenza pandemic will require a high level of community coordination. During the pandemic period, this coordination will be achieved through the establishment of a Regional Emergency Operations Centre (REOC), located in Council Chambers at Regional Headquarters (150 Frederick Street, Kitchener). Community resources and activities during the pandemic will be coordinated through the REOC.

Major decisions pertaining to critical functions coordinated at a region-wide level will be made by the Regional Pandemic Control Group (RPCG), which consists of municipal representatives and be chaired by the Region's Chief Administrative Officer or designate. Refer to Section 4.2.5 for more details on the RPCG.

Four control groups will be responsible for making decisions pertaining to their given sector. Their recommendations, requests for support, and decisions will be conveyed to the RPCG. The RPCG will serve as the central coordination point for the response and recovery efforts. The four groups include:

- Health Sector Control Group

- Community Support Control Group
- Critical Infrastructure Control Group
- Communications Control Group

Additional groups may be established as needed.

9.1.1 Health Sector Control Group

The impact of an influenza pandemic on health services will be significant. Some services will need to be curtailed or cancelled, care will be provided in alternative settings, and alternative workers will be utilized. Given the strain on the sector, and to ensure optimal patient flow through the health care system, information sharing and decision-making will need to occur at a sector level. As such, the Health Sector Control Group (HSCG) will be established to make decisions for the sector during a pandemic event.

Membership

The Commissioner/Medical Officer of Health for Waterloo Region (or designate) will serve as Chair of the Health Sector Control Group.

The group will be comprised of senior management from lead organizations involved in the response and recovery effort. This will include representatives from the following organizations:

- Region of Waterloo Public Health
- Cambridge Memorial Hospital
- Emergency Medical Services
- Grand River Hospital
- St. Mary's General Hospital
- Waterloo Wellington Community Care Access Centre
- Any organization responsible for the management or operation of a Flu Centre or Convalescent Care Centre.

The group may also have representation from the following sectors in the health care community:

- Long-Term Care Homes
- Community Health Centres
- Primary health care providers

Other individuals, such as subject matter experts (e.g. infection control specialists, pharmacists, representatives from laboratories) may be invited to participate in meetings as required.

Roles and Responsibilities

- To facilitate the sharing and interpretation of information (e.g. surveillance data, communications) among health care organizations involved in the response effort.
- To coordinate the external health sector response and recovery effort in Waterloo Region, including decisions related to:
 - Patient flow (through the entire health care system)
 - Influenza Assessment, Treatment and Referral Centres (Flu Centres) and Convalescent Care Centres

- To ensure the response and recovery efforts are consistent between health care organizations, including the deferral of services in acute settings.
- To devise key health messages for the public, health care workers and emergency responders.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).
- To receive direction from the Ministry of Health and Long-Term Care (via the Ministry Emergency Operations Centre and Provincial Emergency Operations Centre).

Supporting Bodies

During emergencies, the Commissioner/Medical Officer of Health convenes the Public Health Support Group (PHSG). The PHSG is comprised of Public Health staff that directly support the activities carried out Commissioner/Medical Officer of Health. During a pandemic, the PHSG will be responsible for all tasks that are the responsibility of the local public health unit (i.e. public health measures, surveillance, distribution of vaccine and antivirals), and for supporting the Health Sector Control Group. The Associate Medical Officer of Health for Waterloo Region (or designate) will chair the PHSG.

9.2 Community Health Services

The community health services section provides an overview of general services that will be provided in Waterloo Region. The chapter also addresses the proposed functions of Flu Centres, and the role they play in the overall patient flow process in the community during a pandemic (i.e. from self-screening through a Flu Centre, and perhaps onwards to acute care). These roles are divided between facilities largely providing assessment and triage, and other facilities providing convalescent care services. The primary goal of many of these services is to triage non-severe cases of pandemic influenza away from acute care facilities.

Specifically, this section provides diagrams and tools related to this patient flow process and the frontline assessment form to be utilized by Flu Centre staff when patients present with influenza-like symptoms during a pandemic. This section also provides an overview of the Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee that has been established (2006-07) to determine the management structure and operational details for these facilities. Proposed Flu Centre sites are also presented.

9.2.1 General Information Line

During an influenza pandemic, Region of Waterloo Public Health will establish and operate a general information line, which will serve as a referral service for members of the public. Basic health screening may also be carried out, directing individuals to the appropriate health care setting or providing self-care information and materials. The line will be operated using virtual centre technology to provide callers with up-to-date information regarding the pandemic via pre-recorded messages that can be updated as needed. The system will also be able to direct residents' queries to an appropriate person or organization based on a queue and availability system. The appropriate telephone number and email address will be widely publicized once a pandemic is declared internationally and/or in Canada.

Operational details related to the general information line will be developed as part of Region of Waterloo Public Health's Internal Pandemic Plan.

9.2.2 Influenza Assessment, Treatment and Referral and Convalescent Care Centres

Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts for an influenza pandemic. To build on these principles, several planning considerations specific to the Influenza Assessment, Treatment and Referral Centres (Flu Centres) were created, and apply in particular to the purposes and functions of these Flu Centres in Waterloo Region.

The main purposes of the Flu Centres (assessment, triage and referral centres) include patient assessment and triage, low-level treatment and discharge.

Additional planning considerations for Flu Centres include:

- Issues related to clinical assessment and screening criteria/tools:
 - Patients will self-screen to determine entry to a Flu Centres.
 - Healthcare workers at Flu Centres will utilize criteria consistent with both the OHPIP and the Acute Health Services Chapter.
 - Flu Centres will also be the lead provider of self-care and discharge materials.
 - Various individuals currently considered to receive healthcare in the community (e.g. home care) will be required to flow through the Flu Centre system in an influenza pandemic.

- Issues related to the level of service/care provided at a Flu Centre:
 - Flu Centres will provide 18 hours of service (however, staff will be available and on-shift 24 hours a day, seven days a week to complete duties and oversee patients requiring limited, observatory care).
 - Recommendations for required lab work will be completed on a patient's assessment form as they are triaged to an acute care facility; however, no laboratory work will be completed at Flu Centres.
 - Oral hydration will be provided, but no intravenous (IV) services will be available at Flu Centres.⁶
 - Distribution of antivirals at Flu Centres is also anticipated, although this process will be contingent upon provincial guidelines and the distribution strategy.

The main purposes of Convalescent Care Centres involve the provision of patient observation, personal care, and hydration services. These facilities will be in place to support patients who are unable to obtain the care they need at home (e.g. ill patients who live alone), and/or who require a level of care higher than basic social support services (refer to Chapter 10 for information on community support services during an influenza pandemic).

⁶ IV services will only be provided in patient transfer zones under exceptional (i.e. 'life or death') circumstances.

Additional planning considerations for Convalescent Care Centres include:

- Issues related to facility operations:
 - Convalescent Care Centres will operate 24 hours a day, seven days a week, during an influenza pandemic.
 - They will only be available to serve stable patients who have been referred/discharged from acute care facilities and Flu Centres.
 - Volunteers will be an essential component of the human resources strategy (re: staffing).
 - Waterloo Wellington Community Care Access Centre (WWCCAC) representatives/staff will be responsible for convalescent care centres intake and discharge.

- Issues related to the types of services provided:
 - Patients will be under observation.
 - Patients will be provided with assistance when it comes to personal care, toileting, meals, and oral hydration.
 - Intravenous and oxygenation services will not be available at convalescent care centres (patients requiring such services in a pandemic will likely meet the criteria for admission into an acute care facility).
 - Patients will be provided with a daily assessment to ascertain their status and recovery from the pandemic virus.
 - A visiting nurse will be available at scheduled times, on-site. The nurse will also be on-call for centre staff.

Screening at Flu Centres

Standardized screening questions are being developed by the Ministry of Health and Long-Term Care, both for the education/awareness level of pre-pandemic planning for the public and to direct suspected cases to the correct care facility. The present goal is to have a common assessment/screening form that would begin with the patient entering a Flu Centre. The September 2006 iteration of the OHPIP contains a number of screening and assessment tools which have been adapted for use in Waterloo Region, and which are contained in this plan. The Region's Primary Assessment Records (for both adult and paediatric patients), to be used by frontline staff in Flu Centres for assessment purposes, can be found in Appendices 10 and 11 (pages 220 and 228).

Proposed Influenza Assessment, Treatment and Referral Centre Sites

The Ontario Health Plan for an Influenza Pandemic provides general guidance on Flu Centres. In the guidelines for establishing these centres, several criteria for Flu Centre site selection are listed. This criterion lists several points for consideration, including:

- Infrastructure
- Space and Layout
- Utilities
- Communication and
- Other Requirements

These criteria, along with several other key considerations were used when selecting proposed sites. This additional criterion includes:

- Population density
- Accessibility to/from rural areas
- Proximity to acute settings (the hospital)
- Access to public transportation
- Facility standards
- Parking availability

In Waterloo Region, Flu Centres will be established in secondary schools, and the following table (Table 8) presents a list of schools that will be considered. The list solely provides options for consideration, and the decision to open Flu Centres in any of these facilities will be made by the Health Sector Control Group, in cooperation with school board officials, during an influenza pandemic. Each Flu Centre will be paired with a hospital.

The various Levels/Tiers represent levels of activation. The schools listed in Level/Tier 1, which are also current or proposed hospital evacuation centres, will be the first Flu Centres established. Schools listed in Level/Tier 2 will be the second wave of centres that are opened. This will depend on the severity of the pandemic. It is possible that there will not be enough resources to establish Flu Centres in each of the facilities listed in these two levels/tiers.

Flu Centres will only be established in Level/Tier 3 facilities if resources (e.g. human resources, financial, equipment and supplies) permit, and if an influenza pandemic is severe. It is unlikely that Flu Centres will be established in each of the facilities listed in this level/tier.

Table 8: Proposed Flu Centres (by Level/Tier) in Waterloo Region

Level/Tier	School
Level/Tier 1	Huron Heights Collegiate Institute Kitchener Collegiate & Vocational Institute St. Benedict's Secondary School St. David's Secondary School
Level/Tier 2	Forest Heights Collegiate Institute Grand River Collegiate Institute Southwood Secondary School
Level/Tier 3	Elmira District Secondary School Jacob Hespeler Secondary School Sir John A. MacDonald Secondary School St. Mary's Secondary School Waterloo Oxford District Secondary School

Refer to Appendix 12 (p. 237) for a map of potential Flu Centres in Waterloo Region.

A more thorough review of these proposed sites will be completed in the next phase of planning. Any additions and/or changes will be made in subsequent planning updates.

Triggers for Establishing Influenza Assessment, Treatment and Referral Centres

The trigger for preparing the first Level/Tier of sites may be the initial pandemic declaration by the World Health Organization. The trigger for opening subsequent sites may be the point when confirmed cases are detected in Ontario and/or Waterloo Region.

The trigger(s) for preparing for, or opening, any Flu Centres will be dependent upon the epidemiology of the circulating strain and how the virus spreads. This will not be known until a pandemic occurs. As such, the triggers presented are options for the Health Sector Control Group to consider during an influenza pandemic.

Proposed Convalescent Care Centre Sites

When considering establishing centres that includes overnight service and stays the OHPIP recommends that communities consider the following (in addition to the Flu Centre criteria):

- Does the site have large areas suitable for setting up (multiple) treatment units; and, have enough space to allow treatment beds to be located 1 metre apart?
- Does the site have space to accommodate enhanced food preparation/service facilities to provide meals for patients?
- Does the site have adequate showering and bathing facilities?

While exact Convalescent Care sites have not been selected, university/college residences and/or training facilities, vacant institutions, and hotels appear to be best suited for this type of facility. A more thorough review of potential sites, and their potential trigger points for opening, will be completed in the next phase of planning.

Managing Influenza Assessment, Treatment and Referral Centres and Convalescent Care Centres

Determining which organizations will be responsible for the establishment, maintenance and operation of Flu Centres and Convalescent Care Facilities continues. While a partnership model (involving several organizations) will likely be required, Region of Waterloo Public Health is committed to leading the planning effort. Determining organizations that be involved in this key response effort will be an essential component of the next phase of planning.

In addition to determining key lead organizations, several management and operational details still need to be developed. This includes:

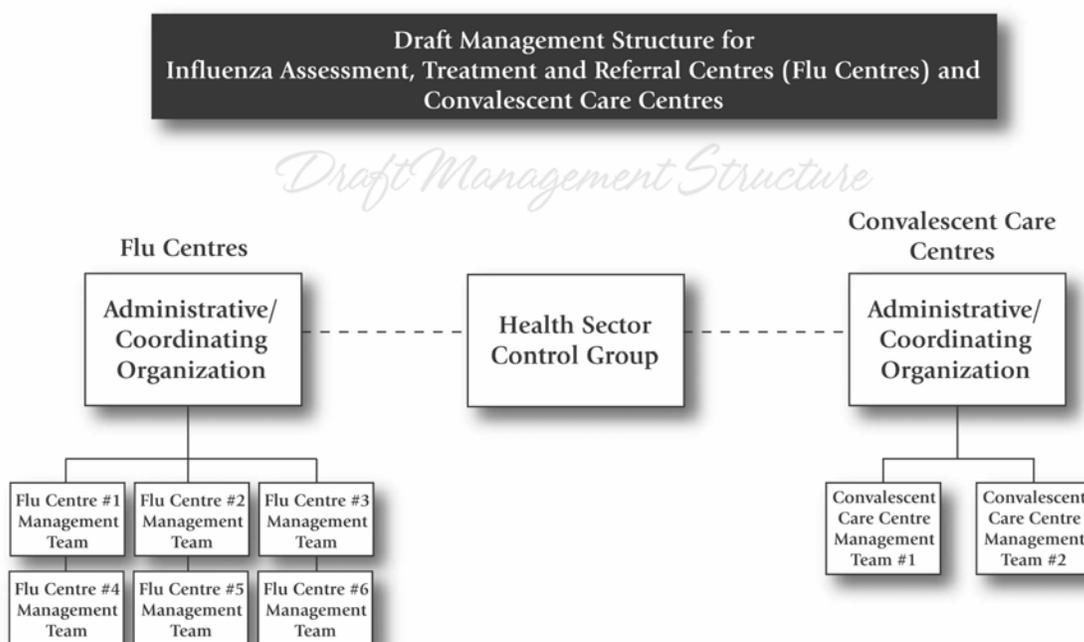
- Human Resource strategies
- Patient transfer protocols
- Security plans
- Equipment and supply requirements
- Patient documentation/identification systems and processes

Appendix 13 (p. 238) presents *Terms of Reference* for the *Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee*. This committee will work to finalize all details related to Flu Centres and Convalescent Care Centres. It is, however, recognized that there are several barriers to implementation, and any plan will not be fully completed until the MOHLTC provides further direction and commitment to provide resources/funding for supplies/equipment and the operations of these centres.

Draft Management Structure

Figure 3 presents the draft management structure for Flu Centres and Convalescent Care Centres. Each will have a separate administrative or coordination lead that will be responsible to the Health Sector Command Group (refer to Section 9.1.1). This administrative lead will be responsible for the overall management of the system. Management teams will be created for each centre established, and will be responsible for the operation of their respective centres. This reflects the fact that no single organization will be responsible for the operation of these centres.

Figure 3: Draft Management Structure for Influenza Assessment, Treatment and Referral Centres and Convalescent Care Centres



The Role of Community Health Service Providers

According to the OHPIP, community health services include:

- Family health teams
- Physicians practices
- Other primary health care providers and agencies
- Community Care Access Centres
- Home care providers
- Community support services
- Community mental health centres
- Other community-based health services

The role of these services providers during an influenza pandemic has yet to be determined, and the OHPIP states that “Ontario will work with primary and community care providers” to develop more detailed plans for community health services during an influenza pandemic.

In Waterloo Region, these providers will be integral to the community health sector. It is anticipated that these providers will be able to provide: support to Flu and Convalescent Care Centres; self-care materials to clients; and, non-flu related care. Consultations and discussions with these providers will be carried out in future planning stages once the Province of Ontario completes its plans or guidelines.

9.3 Acute Health Services

This section addresses the screening and treatment to be provided to patients referred to acute care facilities during a pandemic, along with a general overview as to how acute care services will likely be deferred over the course of the event. Service deferral will largely be a result of the need to focus acute care efforts on priority services for both influenza and non-influenza cases, while also limiting service delivery due to reduced staffing levels caused by healthcare worker absenteeism.

Specifically, this section provides a number of operational tools related to the screening and treatment of patients presenting to acute care facilities during a pandemic. These tools include screening forms, disposition algorithms, and order sets for both adult and paediatric patients (which follow from the 2006 OHPIP).

This chapter and its tools also link directly to community health services as the screening criteria and patient flow process will be coordinated between both the community and acute healthcare sectors during the pandemic.

Subsequent planning stages will incorporate revisions resulting from screening tool updates in the OHPIP, along with additional work on acute care site deferral of services plans, and further linkages addressed between the community health and acute health chapters following from the conclusions and operational details derived from the work of the Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee.

Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts for an influenza pandemic. To build on these principles, several planning considerations specific to the acute health services sector were created, and apply in particular to the purposes and functions of acute care facilities in Waterloo Region during an influenza pandemic.

Planning considerations for acute care facilities include:

- *Activation of Pandemic Influenza and Business Continuity Plans*
 - Surveillance information will be provided to Public Health as required.
 - The level of flu pandemic surge activity will be determined by the Medical Officer of Health through various triggers that will be monitored throughout the pandemic alert and pandemic period. The Medical Officer of Health will also consult with responding health agencies before levels of activity are declared (acute healthcare, primary healthcare, long-term healthcare, CCAC).
 - Pandemic influenza response plans will be activated as Level I, II, or III surge capacity (see “Deferral of Services” section for more information).

- It may become necessary to activate response plans for a higher level of surge capacity than triggers may indicate to allow for additional resources to be mobilized to meet the needs of the community.
- *Provision of Patient Management Services during an Influenza Pandemic*
 - The management of affected individuals will include:
 - Attention to infection control.
 - Maintenance of oxygenation, with assisted ventilation where required and appropriate.
 - Maintenance of hydration with oral or IV fluids.
 - Nutrition.
 - Bed rest.
 - Antiviral therapy with neuraminidase inhibitors (if appropriate and available)
 - Antibiotics for bacterial complications of influenza, where required.
 - Public health considerations, including management of contacts (when feasible and in the very early stages of a pandemic).
 - Initial management will depend on the assessment of the reason for admission, the presence of complications and the impact of the influenza virus on any pre-existing disease, or psychosocial factors.
 - In broad terms, the most likely clinical reasons for admission to hospital will be:
 - Lower respiratory tract complications:
 - Non-pneumonic bacterial exacerbation of chronic lung disease such as Chronic Obstructive Pulmonary Disease (COPD) (possibly with a mixed viral infection).
 - Secondary bacterial pneumonia,
 - Mixed bacterial and viral pneumonia.
 - Primary viral pneumonia.
 - Cardiac Complications:
 - Exacerbation of pre-existing cardiac disease with cardiac failure and/or arrhythmia.
 - Primary myocarditis.
 - Other Complications:
 - Exacerbation of other pre-existing disease, such as diabetes mellitus.
 - Neurological complications.
 - Rhabdomyolysis.
 - Severe sinusitis.
 - Surge Capacity Protocols, deferred services, and business continuity plans are to be pre-determined by each acute health care facility.
 - Services are to be deferred as planned for each level of influenza patient surge.
 - Additional bed capacity will be added within acute health care facilities as planned (space and staff resource availability permitting).
 - Non-influenza patients that can be discharged home with self-care information and support will be discharged to free capacity for the pandemic response.

- Impacts of deferred services are to be continually monitored/assessed, and plans adjusted as required.
 - Once Flu Centres are activated, patients that present to hospital emergency departments that can be managed at these centres will be re-directed to the nearest Flu Centre.
 - Assessment, treatment, and discharge protocols will be followed as outlined/planned (please see this chapter's appendices). However, protocols may be changed as required during the pandemic, depending upon the epidemiology of the virus and shifts in planning priorities.
 - Directives/guidelines as communicated by the Ministry of Health and Long-Term Care during an influenza pandemic will be supported by acute care facilities in Waterloo Region. Response plans will be adjusted accordingly over the course of the pandemic.
- *Linkages with Primary Care and Influenza Assessment, Treatment and Referral Centres*
 - Acute Care facilities will support the Flu Centres and Convalescent Care Centres.
 - It is assumed that long-term and other care facilities will not restrict admissions/transfers to their facilities during an influenza pandemic in order to maximize acute bed capacity.
 - Communications
 - Acute care response agencies will maintain membership on the Health Sector Control Group. All pertinent information will be shared through this control group before changes are made that may contravene response plans and guiding principles previously agreed upon.

9.3.1 Acute Care Tools and Guidelines

Disposition Algorithms for Adults and Paediatrics (Appendices 14 and 15, p. 242 and 243)

Adult and paediatric-specific disposition algorithms have been developed for healthcare providers to quickly review and use when discerning screening and admission criteria for pandemic influenza patients. These algorithms contain admission criteria (which are also reflected in the adult and paediatric assessment forms) for acute care facilities and intensive care units. *Please note, however, that admission criteria for the pandemic influenza virus will be contingent upon its epidemiology and any future revisions to these guidelines as a result of ongoing planning phases in the region, and resulting from revisions to provincial pandemic influenza guidelines.*

Table 9 presents the basic criteria to be considered when determining admission to acute care facilities.

Table 9: Criteria for Admission to Acute Care Facilities

Criteria	Adults	Paediatrics
<u>Consideration for Admission to Acute Care</u>	<p><i>Following initial positive screening for patient meeting case definition:</i></p> <ul style="list-style-type: none"> • Age > 65 years • Confusion • Urea > 7 mmol/l • Respiratory rate > 30/min • SBP < 90 mmHg or DBP < 60 mmHg <p><i>*NOTE: Advanced age (>65) should also be a consideration for admission but not an absolute criterion.</i></p>	<p><i>Following initial positive screening for patient meeting case definition and/or if patient is <1 year old:</i></p> <ul style="list-style-type: none"> • Respiratory distress/cyanosis (O₂ sat <91%) • Pneumonia (chest x-ray confirmed) • Severe dehydration • Altered level of consciousness • Signs of septicaemia • Hypotension • Seizures • Bulging fontanelle • Apneic spells <p><i>*NOTE: Healthcare workers should be concerned if co-morbidity (i.e. chronic heart disease, cystic fibrosis, immune deficiency, diabetes, metabolic disease, long-term aspirin therapy, pre-maturity, especially if <34 weeks gestation and in the first six months of life).</i></p>
<u>Consideration for Admission to Intensive Care Unit (ICU)</u>	<ul style="list-style-type: none"> • SaO₂ < 90% despite FiO₂ > 0.6 • Progressive hypercarbia • Severe acidosis (pH < 7.26) • Septic shock • Bilateral pneumonia • 4 or 5 of the criteria for hospital admission (see above) 	<ul style="list-style-type: none"> • The child is failing to maintain a SaO₂ of >92% in FiO₂ of >0.6. • Persistent hypotension. • There is severe respiratory distress and a raised pCO₂. • There is a rising respiratory rate and pulse rate with clinical evidence of severe respiratory distress with or without a raised pCO₂. • There is a need for ventilation (i.e., apneic episodes, hypercarbia). • There is evidence of encephalopathy.

Assessment Forms for Adults and Paediatrics (Appendices 16 and 17, p. 244 and 249)

Formal assessment forms have also been drafted for adult and paediatric patients, which follow from the Ontario Health Plan for an Influenza Pandemic. While similar in format to the Primary Assessment Record (refer to Appendices 10 and 11, p. 220 and 228), the adult and paediatric

assessment forms are more comprehensive in the information to be collected for patients requiring acute levels of care.

These forms are broken down over sections to be completed by both nurses (or designates) and physicians (or designates), and involve the collection of a range of information relating to an influenza patient's vital signs and the results of more formal physical examinations. This information will then be used to triage influenza patients to their appropriate level of care (or discharge) at an acute facility.

Order Sets for Adults and Paediatrics (Appendices 18 and 19, p. 254 and 257)

Novel order sets for adult and paediatric patients have also been developed. These forms were drafted through the consultation of both physicians and paediatricians on the Acute Health Services Sub-Group (AHSSG), and follow from current best practices for the treatment of influenza-like and respiratory illnesses. These forms are for use in an acute care setting, and outline options for recommended testing, administration of medications, and patient discharge of pandemic influenza cases.

Similar order sets for the administration of various diagnostic tests and medications (antibiotics and antivirals) are also found on the Primary Assessment Records (refer to Appendices 10 and 11 p. 220 and 228).

9.3.2 Overview of Deferral of Services Plans

During an influenza pandemic, it will be impossible for any acute care facility to operate as it normally would. With an influx of influenza-related patients, reduced staffing levels, and potential shortage of equipment and supplies, services will need to be prioritized. All three hospitals in Waterloo Region (Cambridge Memorial, Grand River and St. Mary's General) will focus on select priority services for both influenza and non-influenza cases. Services that are not deemed a priority may be postponed during the height of a pandemic event, and each hospital is currently finalizing a deferral plan to outline the services/activities that would be maintained. The goal of these plans is to consider ways in which space, human resources and supplies can be redeployed in order to provide the highest level of service possible, to the most people, in light of the restrictions imposed by a pandemic.

Deferral of service plans will be based on a phased deferral or scale-back approach. Using a phased approach will ensure hospitals do not defer services before the full extent of the pandemic is known, but will be well positioned to make quick decisions as the need arises. The three levels of surge and the types of services that will be deferred are listed below:

- Level 1 — Minor to moderate surge
 - Defer some treatment for non-life threatening condition if no severe adverse health consequences anticipated from the delay.
 - Defer elective surgery up to 72 hours.
- Level 2 — Major surge
 - Defer all treatment for non-life threatening conditions where no severe adverse health consequences (from the delay) are anticipated.
 - Cancel/Defer all elective surgical procedures.
 - Cancel/Defer all outpatient clinics.
 - Establish an early discharge policy. Increase home care and long-term care home transfers.
 - Open more ICU/ventilator beds where oxygen is available.

- Level 3 — Full scale emergency
 - Maintain services for life-threatening conditions throughout the influenza pandemic.
 - Triage for all treatment.
 - Mass emergency care ('do the best good for the greatest number').

The examples provided highlight a general strategy regarding the deferral of services; the list is not exhaustive. As the services provided at each hospital differ, the phased deferral at each hospital will be unique. All three hospitals, however, will collaborate where possible, and work to ensure that their plans (and decisions during an event) are consistent. The decision to switch from one surge level to another will be made by the Health Sector Control Group.

As part of the plan, each hospital will also develop strategies to build surge capacity, particularly for: emergency services visits, the number of available medical beds, and the number of critical care/intensive care beds.

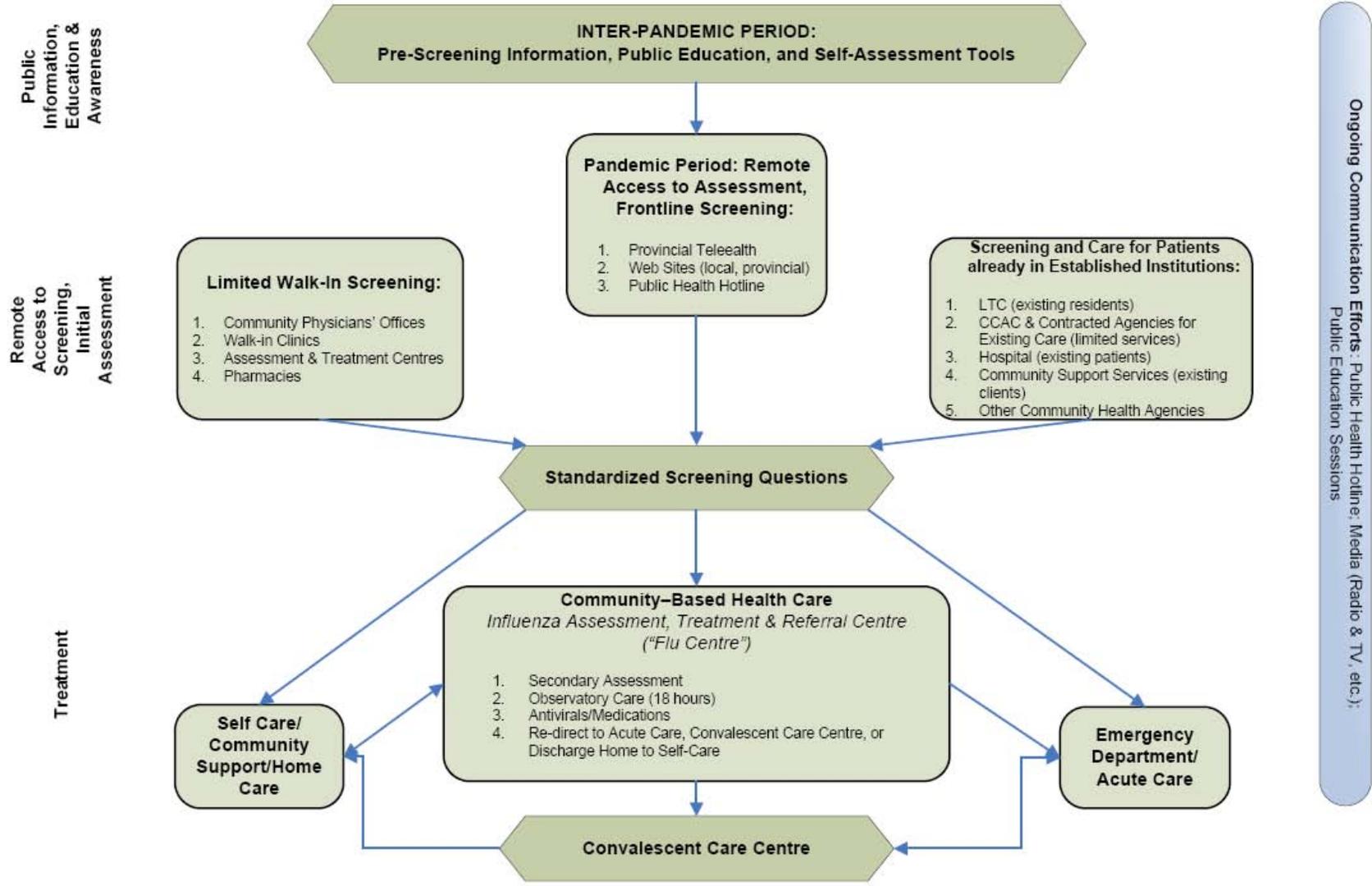
Each deferral of service plan also highlights the resumption of services. Returning services to 'normal' will be a priority for the hospitals as well as the community in general; however, this will not be done prematurely to avoid further strain the health care system.

9.4 General Patient Flow Process

During an influenza pandemic, a large sector of the region's population will seek care from a range of healthcare providers. Both prior to and during the pandemic, communicating the patient flow process during the event will be essential. All communications will highlight the differences between how care is currently delivered and how new and non-traditional healthcare facilities will be utilized for screening, triage, and treatment purposes.

This section of the chapter provides a general overview of the patient flow process, with an emphasis on the importance of self-screening by individuals who believe they are ill with the pandemic influenza virus. These patients will be required to seek initial assessment and treatment at Flu Centres. The patient flow process is outlined visually in Patient Flow Chart #1.

**WATERLOO REGION PATIENT FLOW CHART #1:
 GENERAL PATIENT FLOW PROCESS IN AN INFLUENZA PANDEMIC**



9.4.1 Pre-Screening Information, Public Education, and Self-Assessment Tools

Prior to the arrival of the pandemic virus in the community, formal and ongoing public education programs will be required to provide residents with the necessary information and preparedness materials/tools to better understand both the pandemic threat and the process for response in Waterloo Region. This public education program will inform residents of the ways in which the “normal” health care system will adjust to meet the unique needs of pandemic influenza patients and to deal with the surge in cases across the community.

This education program will likely include information regarding the differences between annual influenza and pandemic influenza, how residents can screen themselves at home, and what self-care measures can be applied when caring for oneself and/or a loved one at home. Most importantly, however, this program will make residents aware of the pandemic influenza patient flow process, whereby individuals suspected of having contracted the virus will use both self-screening and remote-access tools (in most cases) to ascertain whether they require additional assessment and care in the Flu Centre system.

9.4.2 Remote Access to Assessment, Frontline Screening

Once a pandemic has been declared, individuals in the community suspecting that they have contracted the pandemic virus will be encouraged to utilize remote access screening tools to discern whether they require additional care (these tools will likely follow provincial recommendations, and will be developed in the near future).

Residents will be expected to complete the initial, standardized screening questions by contacting/using remote access points by phone and/or the Internet. Recommended points include:

- a. Provincial Telehealth
- b. Websites (both local and provincial)
- c. Regional Public Health Hotline (which will be established at the onset of a pandemic)

It is anticipated that media outlets, including television, radio, and newspapers, will carry inserts of pandemic influenza education materials to direct the public to the proper screening and assessment resources. However, the use of 9-1-1 emergency dispatch for pandemic screening will be discouraged in the lead-up to and during an influenza pandemic, as this resource will be strained while police/fire/ambulance (P/F/A) services deal with both reduced staffing levels and “everyday” emergency calls. A pandemic-specific tiered response protocol for the P/F/A response to “pandemic calls” has been developed to address these issues (refer to Chapter 11).

9.4.3 Limited Walk-in Screening

A key assumption of the patient flow process in Waterloo Region will be the need for limiting the number of suspected pandemic influenza cases from using traditional health care facilities/services for their initial and secondary assessments. While it can be expected that some patients will attempt to visit their community physician’s office, walk-in clinics, and/or pharmacies, it will be essential for the public education program to inform residents of the need to complete initial assessments via remote access and/or through a direct visit to a Flu Centre. As traditional settings (i.e. doctors’ offices) will likely receive some suspected cases of pandemic influenza for assessment, such facilities will need to adopt stringent and novel infection prevention and control measures. These measures will ensure that non-pandemic cases are not put at any greater risk of contracting the virus from visiting patients. Examples

include: advertising times for seeing only pandemic patients; employing the use of masks and stringent personal hygiene measures in the office, etc. Refer to Chapter 13 for more information regarding infection prevention and control guidelines for these settings.

In general, once Flu Centres are opened, it is expected that primary care providers and pharmacies will direct patients (that present to their offices with 'flu-like' symptoms) to the nearest Flu Centre.

9.4.4 Screening and Care for Patients already in Established Institutions

The CPIP contains a recommendation to both screen and care for in-house patients who are suspected to have contracted the pandemic influenza virus within the confines of such facilities as Long-Term Care Homes, as opposed to transferring them out to Flu Centres and/or acute care settings (unless acute care was required). Cohorting measures and/or transforming areas of existing facilities into "pandemic wards" may be required, depending on the severity of the outbreak and the number of cases within such facilities.

It must be noted, however, that some patients already receiving services from organizations such as CCAC and smaller retirement homes may likely fall within the larger, "public" flow of individuals who will seek care through the Flu Centre system. Those individuals who receive varied levels of support (e.g. weekly home care) would not be cared for in a designated facility, and thus, would follow and partake in the general patient flow process.

9.4.5 Standardized Screening Questions

Standardized screening questions are being developed by the Ministry of Health and Long-Term Care, both for the education/awareness level of pre-pandemic planning for the public and to direct suspected cases to the correct care facility. The present goal is to have a common assessment/screening form that would begin with the patient entering a Flu Centre. From the Flu Centre the patient will be:

- Discharged and sent home with self-care materials and/or a referral to community support services
- Treated with antivirals (if available and appropriate)
- Triaged to a convalescent care facility
- Triaged to an acute care setting.

The September 2006 iteration of the OHPIP contains a number of screening and assessment tools which have been adapted for use in Waterloo Region, and which are contained in this plan. The Region's Primary Assessment Records (for both adult and paediatric patients), to be used by frontline staff in Flu Centres for assessment purposes, can be found in Appendices 10 and 11 (p. 220 and 228).

9.4.6 Community-based Health Care

Again, the recommended roles for Flu Centres include the following:

- Completion of primary and secondary assessments
- Triage to convalescent care, acute care, or discharge
- Distribution of antivirals and/or medications (as available)
- Distribution of self-care materials

9.4.7 Self-Care/Community Support/Home Care

Prior to discharge into the community, patients who no longer/do not require traditional/alternative care will be provided materials that will provide additional information regarding pandemic influenza, how to care for oneself and others during the pandemic, and which community support services may be available to them throughout the pandemic. These services are outlined in Chapter 10.

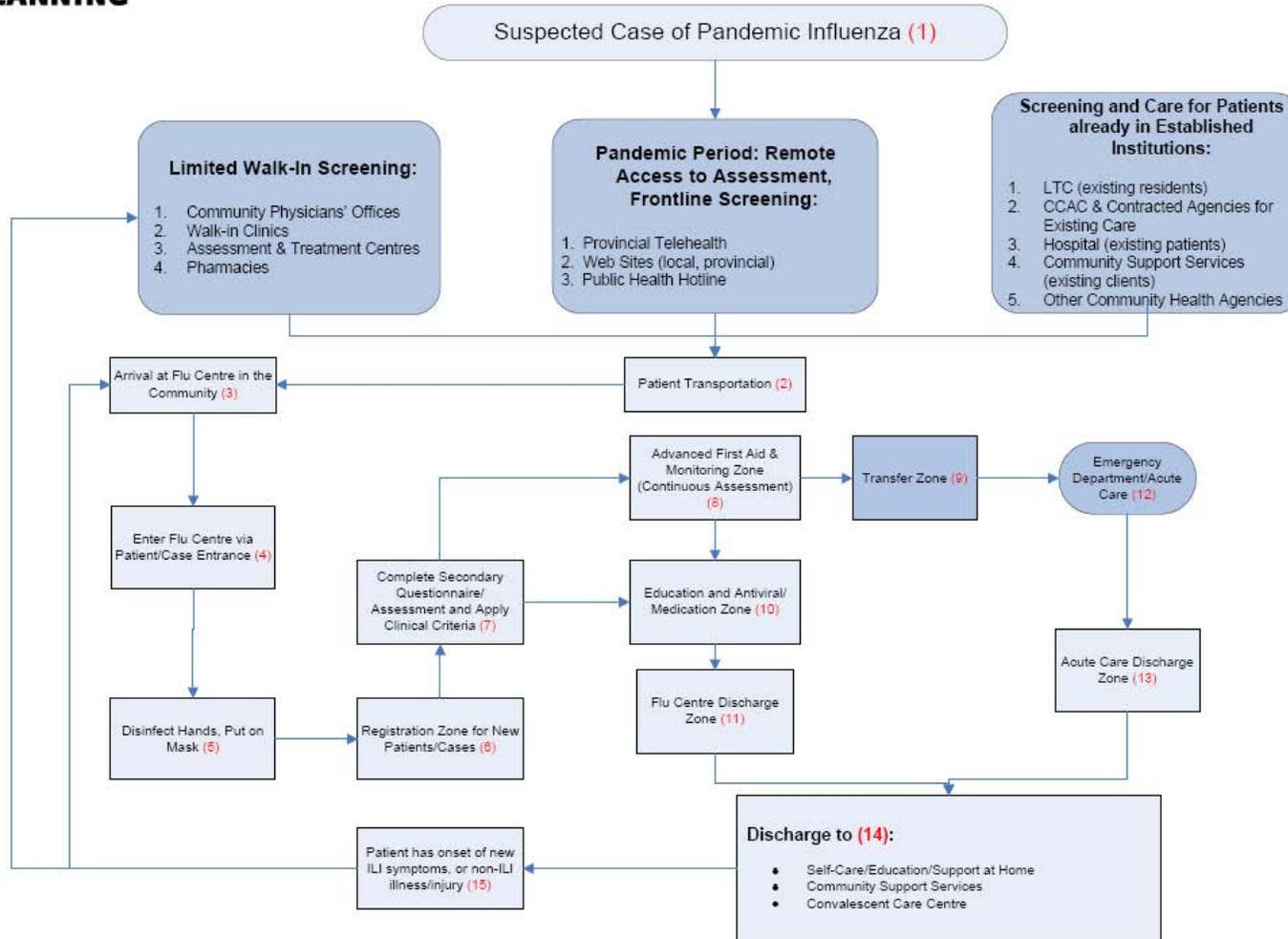
9.4.8 Emergency Department/Acute Care

Severe cases of suspected pandemic influenza will likely be screened and transferred out of the Flu Centre system and into acute care facilities (and perhaps intensive care units). The general criteria for such patients have been developed and are outlined in Table 9. These criteria, however, will be contingent upon the epidemiology of the virus and provincial directives.

Severe cases may require transport directly from Flu Centres, and/or from convalescent sites as well. The second overview and patient flow diagram will have more specific considerations regarding the movement of severe cases out of the Flu Centre system and into acute care settings.

Patient Flow Chart #2 highlights patient flow through Flu Centres, Convalescent Care Centres and acute settings.

**WATERLOO REGION PATIENT FLOW CHART #2:
SPECIFIC IATRC AND ACUTE CARE PATIENT FLOW PROCESS IN AN INFLUENZA PANDEMIC**



Box #1: Suspected Case of Pandemic Influenza (possible case definitions)

Criteria for Adults	Criteria for Paediatrics
<ul style="list-style-type: none"> • Documented fever > 38°C (100.4°F) • Acute onset of cough or shortness of breath • Presence of influenza circulating in the community OR (for H5N1) history of contact with poultry or domestic birds, or a known or suspected patient with avian influenza H5N1 in an H5N1-affected country, within 10 days of symptom onset 	<ul style="list-style-type: none"> • Documented fever > 38°C (100.4°F) • Acute onset of cough and rhinitis • Respiratory distress • Difficulty breathing (in infants) • Presence of influenza circulating in the community OR (for H5N1) history of contact with poultry or domestic birds, or a known or suspected patient with avian influenza H5N1 in an H5N1-affected country, within 10 days of symptom onset

- It is important to note that the case definitions will need to be updated regularly as outbreaks of pandemic influenza are identified. Moreover, the criteria specific to bird flu will likely not be relevant once the pandemic has been declared and the human virus is identified.

Box #2: Patient Transportation

- Ongoing discussion required regarding general transportation services to be provided to residents who cannot find their own way to a Flu Centre after being initially assessed and directed to the facilities.
- Additional considerations include:
 - Whether EMS transport is feasible or will only occur for severe cases requiring acute care.
 - The use of mass transit resources specifically allocated to the Flu Centre and Convalescent Care system.

Boxes #3 – 7: Patient Arrival and Assessment at Flu Centres

- Important element of Flu Centres will be clear signage and availability of human resources (e.g. volunteers, security) to direct suspected cases through the entrance and registration process.
- Infection control protocols will be in place and personal protective equipment (PPE) will likely be distributed to possible cases upon arrival at a Flu Centre.
- Assessments of suspected cases directed through the Flu Centre system will follow the same criteria and similar screening documentation that will be used at acute facilities.
- Additional considerations include:
 - The composition of a “waiting area” and the resources available for clients.
 - Types of entertainment resources available (e.g. magazines, newspapers) as many could facilitate the spread of the virus.
- The secondary assessment will result in the patient being directed to one of two areas: the advanced first aid and monitoring zone (for patients who may need transport and higher level of care services in an acute care setting; pulse oximetry would likely be used along with a clinical assessment), or the education and antiviral medication zone,

where patients would receive self-care information and their antiviral courses (if required and when available).

Boxes #8 and #9: Advanced First Aid and Monitoring Zone, and Transfer Zone

- Flu Centre sites will require a range of resources, including equipment and supplies. Consideration will also be made for patients whose symptoms worsen while they are at a centre.
- Flu Centres will not support intubated patients, nor will the provision of oxygenation or intravenous fluids be available. Lab work will also not be available at the Flu Centres, although assessment forms will direct healthcare workers to the proper laboratory testing to take place for patients transferred to acute care settings.

Box #10: Education and Antiviral/Medication Zone

- General self-care materials distributed at the Flu Centres will be similar in nature to those given to discharged patients at acute care facilities (although patients discharged from acute care will likely have more specific patient care information related to their conditions).
- Additional considerations include:
 - The ability to store antivirals and related medications on-site or make them available via mobile pharmacies (support at Flu Centres from hospital pharmacies is unlikely in a pandemic)
 - Security requirements at Flu Centres and securing supplies to be kept on-site (provincial direction regarding antiviral distribution will be essential).

Box #11: Flu Centre Discharge Zone

- Discharge will be to one of the following areas/facilities:
 - Self-care/education/support at home
 - Community agencies and support services
 - Convalescent care centre

Boxes #12 – 13: Emergency Department/Acute Care and Discharge Zone

- Criteria for such cases has been determined and approved by the CPIPP Health Services Working Group, and is outlined in Appendices 18 and 19, p. 254 and 257.

Box #14: Formal Discharge

- Many patients will easily be sent home for self-care, while others requiring additional support may seek community support services (refer to Chapter 10).
- Moreover, some patients, from either the Flu Centre system or an acute care setting, may be discharged into a convalescent care centre (likely with their required antiviral courses and/or antibiotics, and self-care materials) for observation and support if such levels of assistance are not available to them at home. The level of “care” in these settings will be supportive.

Box #15: Patients with Onset of New ILI Symptoms or Non-ILI or Injury

- Consideration must also be given to patients who may be discharged back into the community but who come down with an illness after moving through the Flu Centre system. The education materials will have to be clear in reinforcing the fact that the public will need to continuously screen themselves for ILI symptoms, and that they are not to visit their traditional healthcare providers if they come down with flu-like symptoms.
- Education materials will also have to provide specific information for flu-cases who may come down with a non-flu illness or injury during the pandemic, and the means with which they should seek care (e.g. which health provider to contact, etc.)

9.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding community health services include (NOTE: In some cases, these steps will be subject to provincial direction):

- Develop strategies or protocols related to maintaining non-flu-related ambulatory care in the community.
- Further engage primary care providers in the pandemic planning process. Where possible, assess their capacity to assist with both flu-related and non-flu-related care.
- In cooperation with the acute sector, devise guidelines outlining the system of prioritization for clients seeking to receive non-influenza-related care in hospitals (i.e. pandemic triage protocol).
- Develop strategies to educate health care organizations (and their employees) about the tools contained in the CPIP (primary assessment record, assessment forms, disposition algorithms, order sets, etc.) and pandemic-specific triage processes.
- Ensure updates to tools are distributed to all other health care stakeholders, and continue to link these tools with acute patient flow process and tools.

Region of Waterloo Public Health will be responsible for securing the necessary infrastructure, and all operational details related to the general information line.

The next planning steps regarding the establishment and management of Influenza Assessment, Treatment and Referral Centres include:

- Finalize how many Flu Centres and Convalescent Care Centres are required, and where these centres should be located.
- Determine which organization(s) will be responsible for the operation of each centre.
- Develop a management structure for Flu Centres and Convalescent Care Centres.
- Develop strategies or protocols (and operational details) related to the operation of Flu Centres and Convalescent Care Centres. Operational elements will include: Human resources, patient transfer (between acute settings, Flu Centres and Convalescent Care Centres).
- Participate (in cooperation with Region of Waterloo Public Health) in the development of an antiviral treatment and distribution plan for Waterloo Region.
- In cooperation with equipment and supply specialists, identify the critical equipment and supplies required to operate Flu Centres and Convalescent Care Centres. Identify

potential sources of these materials, if any should be stockpiled locally, and any potential support available from the province.

- Determine how vulnerable populations will access the Flu Centres and Convalescent Care Centres (e.g. develop a special triage system, use mobile response units).
- Ensure the proper linkages with the community support sector are established.
- Recommend potential trigger points for the activation and deactivation of Flu Centres and Convalescent Care Centres.

The next planning steps regarding acute health services include:

- Forward acute sector tools (assessment forms, order forms, disposition algorithms – refer to appendices 14-19, p. 242-259) to the appropriate Medical Advisory Committee (or equivalent) as well as physician and nursing groups for review and comment.
- Test acute sector tools when conducting hospital-wide pandemic exercises, and update accordingly.
- Complete deferral of services plans (by surge level), highlighting which services will be deferred (including how long, what level of care will be provided, etc.), the ability to build surge capacity (e.g. ICU, beds, pandemic wards), etc.
- Develop the necessary protocols, data collection systems and training programs related to the pandemic planning triage/admitting/treatment process.
- Develop guidelines for the implementation and activation of mass emergency care services during a pandemic (following from section 17.4 of the OHPIP).
- In cooperation with the community health sector, devise guidelines outlining who receives non-flu-related care in hospitals (i.e. develop triage protocol).
- Ensure updates to tools are distributed to all other health care stakeholders, and continue to link these tools with acute patient flow process and tools.
- Develop laboratory-specific guidelines outlining the services that will be provided, guidelines for collecting and shipping specimens, and the capacity to complete testing.

9.6 References and Supporting Documentation

Government of Ontario. “Chapter 11: Influenza Assessment, Treatment and Referral Centres,” Ontario Health Plan for an Influenza Pandemic. September 2006, 11-1 to 11-5.

Government of Ontario. “Chapter 11A: Influenza Assessment, Treatment and Referral Centre Tools,” Ontario Health Plan for an Influenza Pandemic. September 2006, 11A-1 to 11A-22.

Government of Ontario. “Chapter 17: Acute Care Services,” Ontario Health Plan for an Influenza Pandemic. September 2006, 17-1 to 17-17.

Government of Ontario. “Chapter 17A: Acute Health Services Tools,” Ontario Health Plan for an Influenza Pandemic. September 2006, 17A-1 to 17A-5.

10 COMMUNITY SUPPORT SERVICES

While it is difficult to predict the impact an influenza pandemic will have on the community, it is recognized that most individuals will be able to remain at home if they are provided self-care materials or receive additional support (such as assistance with shopping, meal preparation, animal care, etc.). Support systems, primarily through care given by friends, families and/or neighbours will be essential for alleviating some of the burden on the health care system. However, there will be individuals and families in the community who do not have these support networks to assist them. In addition, there will be individuals who are unable or unwilling to utilize response and recovery services. The role of the community support sector is to work to provide support to individuals and families who would be able to recover from the circulating strain of pandemic influenza while staying at home, but do not have the necessary networks to support them during their illness.

The unique characteristics of pandemic influenza will create some extraordinary considerations for organizations in the community support sector, and their role during a pandemic is an emerging field of study. This chapter highlights some initial planning work completed by representatives from community support organizations in Waterloo Region. In general, this chapter provides a framework for the sector's response and recovery efforts.

Specifically, this chapter highlights the populations that may require support services during an influenza pandemic, an overview of the community support services that will be provided, and which organizations will be partially responsible for their provision. This section also outlines how the sector will coordinate its response effort.

Subsequent planning stages will focus on operational details related to this framework and involve consultations with other organizations in the sector to assess their capacity to assist in the response and recovery efforts.

10.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles, several planning considerations specific to the community support sector were created. Developed by representatives from community organizations, these outline key assumptions that will guide organizations involved in the planning, response and recovery efforts. These considerations will also ensure the goals and guiding principles of the Community Pandemic Influenza Preparedness Plan (CPIPP) are upheld.

These planning considerations include:

- Individuals and families should undertake the necessary steps to ensure they are personally prepared (e.g. make plans for child/elder care, stockpile food and other essential supplies, assemble a first aid kit) for an influenza pandemic.
- During an influenza pandemic, community members should primarily be cared for by friends, family and neighbours.
- Community organizations should work to support their own populations and clients. Each organization should design and test service (business) continuity plans to

effectively manage the impacts of a pandemic such as staff shortages, disruption to supply chains, absenteeism and continuity of critical services.

- Community support services will not be provided to all members of the general public. Services will only be provided to individuals who are severely ill and do not have the necessary networks to support them during their illness. Stringent criteria will be used to determine who will receive supports.
- The ability of community support organizations to provide assistance to the response and recovery efforts is dependent on compensation for the provision of the services, and resource availability.
- To ensure an effective response and recovery effort, there will be a need for seamless linkages between the health and community support sector. This includes an ability to share information. This will require the province to make special provisions under the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) and the Personal Health Information Protection Act (PHIPA), or the Emergency Management and Civil Protection Act.

10.2 Coordinating the Response Effort

A pandemic will require a high level of community coordination. During the pandemic period, this coordination will be achieved through the establishment of a Regional Emergency Operations Centre (REOC), located in Council Chambers at Regional Headquarters (150 Frederick Street, Kitchener). Community resources and activities will be coordinated through the REOC.

Major decisions pertaining to critical functions coordinated at a region-wide level will be made by the Regional Pandemic Control Group (RPCG) (which consists of municipal representatives and be chaired by the Region's Chief Administrative Officer or designate). Refer to Section 4.2.5 more for information on the RPCG.

Four control groups will be responsible for making decisions pertaining to their given sector. Their recommendations, requests for support, and decisions will be conveyed to the RPCG. The RPCG will serve as the central coordination point for the response and recovery efforts. The four groups include:

- Health Sector Control Group
- Community Support Control Group
- Critical Infrastructure Control Group
- Communications Control Group

Additional groups may be established as needed.

10.2.1 The Community Support Control Group

The Community Support Group (CSCG) will be responsible for coordinating the community support sector during an influenza pandemic. The CSCG will facilitate the gathering and sharing of information among the lead organizations involved in the community support sector response effort, and make decisions (e.g. scope, prioritization) pertaining to the provision of community support services.

Membership

The Commissioner, Social Services for the Region of Waterloo (or designate) will serve as chair of the Community Support Control Group.

The group will be comprised of senior management from lead organizations involved in the response and recovery effort. This would include representatives from the following organizations:

- Cambridge & District Humane Society
- Cambridge Self-Help Food Bank
- Canadian Mental Health Association
- Canadian Red Cross Society
- City of Cambridge (Volunteer Services)
- City of Kitchener (Volunteer Resources)
- City of Waterloo (Volunteer Services)
- Community Care Concepts of Woolwich, Wellesley and Wilmot
- Family and Children's Services of the Waterloo Region
- Food Bank of Waterloo Region
- Kitchener-Waterloo Humane Society
- Kitchener-Waterloo Meals on Wheels
- Meals on Wheels and Community Home Support (Cambridge)
- Region of Waterloo Social Services
- Region of Waterloo (Volunteer Services)
- Volunteer Action Centre of Kitchener-Waterloo
- Waterloo Wellington Community Care Access Centre

The group will also have representation from the following sectors:

- Faith communities
- Multi-cultural communities
- Shelters

Other individuals may be invited to participate in meetings as required.

Roles and Responsibilities

- To facilitate the gathering and sharing of information among the lead organizations involved in the community support sector response effort.
- To make decisions (e.g. scope, prioritization) pertaining to the provision of community support services.
- To facilitate the communication of key decisions and information with other organizations in the sector.
- To devise key messages for the public regarding the provision of community support services during a pandemic.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and other sector control groups (via the REOC).

- Receive direction from the Ministry of Community Safety and Correctional Services (MCSCS) / Emergency Management Ontario (via the Provincial Emergency Operations Centre).

10.3 Populations That May Require Novel Community Support Services

During an influenza pandemic, the entire population will be at risk of contracting the virus. Certain individuals or segments may be more at risk than others (as was the case in the 1918 influenza pandemic⁷); however, this will not be determined until the circulating strain emerges and the epidemiology of the virus is known. While the entire population will be at risk, there will be certain individuals or segments of the population that will require novel support given their inability to access resources, their personal situation, and/or the nature of the health emergency. In addition, there will be individuals or segments of the population that may be disproportionately affected because of their personal situation or circumstances.

Supports will be provided in two ways: populations for which direct services will be provided; and populations for which special considerations need to be accounted for in all planning, response and recovery efforts.

Populations Requiring Novel Community Support Services

In order to prepare for this health emergency, certain populations have been pre-identified as requiring these novel support services, and response efforts will account for these needs.

These individuals or segments include people who:

- Become ill and live on their own and do not have friends, family or neighbours to care for them
- Become ill and live on their own or lose their primary support (caregiver) and
 - have a mental illness
 - have a disability
 - are considered to be frail elderly (including those who suffer from dementia)
 - are part of the homeless/shelter populations
 - are travelling or are international students
- Are children (16 and under) who lose their primary support or caregiver

The community support services that are provided during a pandemic will be targeted to these populations. The criteria used to outline who will receive supports will be developed in subsequent planning stages and/or when guidelines on community support services are provided by senior levels of government (the federal and/or provincial government).

Populations that need to be considered by all organizations involved in planning, response and recovery phases

It is also recognized that certain populations, whether they fall ill or not, will require emergency social service assistance or assistance in accessing information or services related to the pandemic response and recovery efforts. These include:

- Persons with language and literacy barriers
- Persons without social ties to the community

⁷ The 1918 influenza pandemic disproportionately affected individuals 18 to 40 years of age.

- Individuals on low incomes who are unable to stockpile and/or access food or other resources
- International students
- Non-residents who are travelling and unable to return home
- Homeless/shelter populations
 - Emergency shelters
 - Rooming houses
 - Boarding houses
 - Drop-in shelters

All organizations involved in the planning, response and recovery efforts need to ensure the services and resources they provide, related to an influenza pandemic, account for the needs of these populations. Information pertaining to vulnerable populations is presented in this chapter (refer to Section 10.6); however, most of the measures tailored to these populations will be developed as each sector finalizes their operational details.

10.4 Community Support Services during an Influenza Pandemic

An influenza pandemic will create extraordinary considerations for organizations in the community support sector. A pandemic will affect: what services organizations provide; how organizations provide these support services; and who organizations provide services to⁸. While each organization in the community support sector will need to determine these impacts on their individual operations, there is a need to link all organizations involved in Waterloo Region's community response effort.

The concept of operations or planning framework for the community pandemic planning effort is based on the traditional role of emergency social services (ESS) in which there are five mandated services:

- Registration and Inquiry
- Lodging
- Food
- Clothing
- Personal services

However, given the nature of a pandemic event, some aspects of these traditional responses may not be required during the response and recovery efforts. There may also be a need to provide novel services to accommodate the needs of various community members. In Waterloo Region, the response effort for the community support sector will focus on seven (7) services:

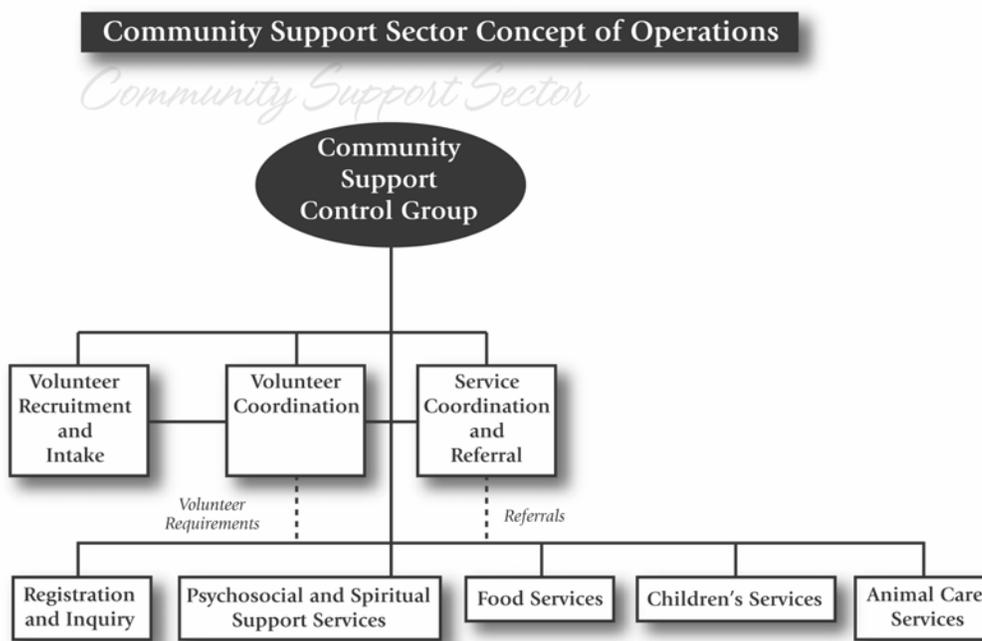
- Service Coordination and Referral
- Registration and Inquiry
- Volunteer Management
- Psychosocial and Spiritual Supports
- Food Services
- Children's Services
- Animal Care Services

⁸ Organizations will need to balance their existing mandates with their expanded pandemic-specific mandates.

10.5 Concept of Operations

The Concept of Operations for the Community Support Sector is presented in Figure 4. The overall response effort will be directed by the Community Support Control Group (refer to Section 10.2.1), but each service area will be coordinated by an organization or group of organizations. Each service area and the scope of the response activities are highlighted below.

Figure 4: Community Support Sector Concept of Operations



While the Concept of Operations and this chapter outline the primary focus and responsibilities of the community support sector in Waterloo Region, it does not preclude the Regional Pandemic Control Group from enacting the Social Services Emergency Response Plan (SSERP) if necessary. The aim of the SSERP is to outline a plan of action for the efficient deployment and coordination of services, agencies, and personnel to provide the earliest possible initial response during a traditional ESS emergency. Some of these mechanisms and protocols may be useful during a pandemic, and be able to support the services listed below.

10.5.1 Service Coordination and Referral

During an influenza pandemic, the Canadian Red Cross Society (Waterloo Region) will manage the Service Coordination and Referral Centre that will serve as the central coordination point for the community support sector. It is anticipated that requests for services will be made through the service coordination centre. It is anticipated that a web-based system will be available to handle all referrals. Staff at the centre will:

- Receive calls from individuals/families requesting services and from organizations (health care or otherwise) referring individuals/families for support services.

- Conduct a needs assessment and screening (when not already completed) to determine if the individuals/families fall within the parameters for supports, and for which services they qualify.
- Assess and prioritize the requests, and refer them to the most appropriate organization.

All referrals, when applicable, will be forwarded to organizations involved in the response effort. The individual/family information will be entered into a database and assigned a tracking number. All organizations responsible for a service area will have access to this database and will obtain the relevant information (who they provide their services to) from this system. Refer to Section 10.8 for information on how the community support system can be accessed.

It is anticipated that the Canadian Red Cross Society (Waterloo Region) will be able to manage the Service Coordination and Referral Centre using staff, existing volunteers and episodic volunteers (community members who volunteer to assist in the community response effort).

10.5.2 Registration and Inquiry

In a traditional emergency, the registration and inquiry function answers questions as to the whereabouts of people affected by emergency/disasters, assists in the reunification of separated family members and provides information to other emergency response agencies offering essential services to people affected by emergencies or disasters.

While it is anticipated that there may be a role for this service during an influenza pandemic, there will be challenges to completing the registration and inquiry function. Unlike traditional emergencies, there will not be one central gathering or collection point to register individuals/families affected by the emergency, and given the nature of the virus, a one-stop collection point is not recommended. Heavier emphasis will need to be placed on the use of telephone and other communication tools for delivery of this function and other services. In addition, the health care system will operate differently, particularly with the establishment of multiple Flu Centres. There may also be concerns with sharing personal information if individuals are not well enough to sign consent and other forms. Funeral home and mortuary service providers will also operate differently given the number of deaths.

In Waterloo Region, the Canadian Red Cross Society will work to provide the registration and inquiry function; however, its ability to do so will depend on access to and information received from the Flu Centres and funeral homes/mortuary service providers. There will already be an established link with the Service Coordination and Referral Centre.

10.5.3 Volunteer Management

The SARS outbreak in Toronto demonstrated the important role volunteers can play during a health emergency, and the Ministry of Health and Long-Term Care, through the Ontario Health Plan for an Influenza Pandemic, recommends that a pandemic-specific volunteer strategy be developed and included in any community response and recovery effort.

During a pandemic it is expected that the organizations involved in the response and recovery efforts will utilize their existing volunteer base. As such, they will continue to manage their own volunteers. However, given the number of individuals who will be affected by an influenza pandemic, it is expected that all health care and community support systems will become overwhelmed in a short period of time. The organizations in those sectors that are part of the community's response and recovery efforts will require additional human resources. While

health care organizations will work to develop a human resources strategy for the sector (refer to Chapter 14 on health human resources), there will still be a need for episodic volunteers to provide certain services. Therefore, volunteer mobilization and utilization will be an integral part of Waterloo Region's response and recovery efforts. Promoting volunteerism will need to be part of any communications delivered to the public before and during a pandemic event.

Before an influenza pandemic occurs, organizations responsible for volunteer management will work to develop the operational details pertaining to the system. To date, there has been agreement to:

- Develop a common pandemic-specific intake/registration form.
- Request that organizations involved in the response and recovery efforts develop generic volunteer descriptions and outline the required level of screening.
- Re-screen, if necessary, current volunteers who want to participate in the response and recovery efforts.
- Devise a system to identify the volunteer's security status (level of screening).
- Determine and secure the required infrastructure.
- Begin volunteer recruitment initiatives once a pandemic is declared (or upon the advice of the Medical Officer of Health). Recruitment will not take place too far in advance of a pandemic.

During an influenza pandemic, the volunteer management system in Waterloo Region will be divided into two components:

- Volunteer Recruitment and Intake, and
- Volunteer Coordination

Volunteer Recruitment and Intake (Screening)

In all pandemic-specific communication materials that are developed, members of the public or members of service clubs or community associations interested in volunteering will be referred to one of three area municipalities: City of Cambridge, City of Kitchener, or City of Waterloo. Each of these municipalities operates a division or unit with staff dedicated to volunteer management. Further, these staff members have expertise in volunteer intake (screening). Given the built-in infrastructure and experience with screening volunteers, these municipalities are well suited to perform this function.

The municipalities will screen volunteers for all organizations involved in Waterloo Region's response and recovery efforts.

Upon referral, the municipalities will complete the necessary screening. After screening is complete, the volunteer's details will be entered into a database or volunteer tracking system. The information will then be used by the organizations responsible for volunteer coordination. Individuals with specialized skills that may be of assistance to health care organizations will be identified and referred to health care organizations.⁹

To assist with volunteer intake and screening, the Waterloo Regional Police Service (WRPS) will ensure the unit responsible for police and security checks are appropriately staffed so these checks may be completed in a timely manner. However, it should be noted that the WRPS is

⁹ Details pertaining to referrals to the health care sector will be determined once the health sector human resources strategy is developed.

not responsible for managing the system that completes a nation-wide police/security check and will not have control over the response time for that service.

Volunteer Coordination

The Volunteer Action Centre of Kitchener-Waterloo and Region of Waterloo Volunteer Services will be responsible for operating the Volunteer Coordination Centre (VCC). This VCC will be responsible for volunteer management after the screening process is complete. The purpose of this centre is to:

- Maintain a list of current volunteers
- Receive requests (from organizations directly involved in the community's response and recovery efforts) for volunteers
- Match up screened volunteers with organizations requiring volunteers.
- Receive direction from the Community Support Control Group (re: response priorities)
- Prioritize volunteer requests, and redeploy volunteers as required

The Volunteer Coordination Centre will be established at the same location as the Service Coordination and Referral Centre.

10.5.4 Psychosocial and Spiritual Supports

During and following any disaster or emergency, people need to cope with changes in their lives. The resulting effects from an influenza pandemic will pose substantial physical, social, emotional, and economic challenges to individuals and families. People may need to grieve for deceased friends and family, cope with personal or family crises, and/or look for, or cope with changes, to their employment situation.

It is generally anticipated that most individuals will use existing personal support networks such as friends, family members, faith communities, etc. to discuss their feelings in order to cope with their experiences. However, there are some individuals and families who will require professional supports. The Canadian Mental Health Association will coordinate with other community organizations to respond to the psychosocial needs of the citizens of Waterloo Region. As part of their response effort, the CMHA will:

- Offer 24 hour, seven days a week support through their Help Distress Line
- Utilize their Mobile Crisis Team for on-site supports (upon request and when resources permit)
- Refer individuals and families to other psychosocial support resources in the community

Before a pandemic occurs, organizations in Waterloo Region that provide psychosocial and spiritual supports will be consulted in order to assess their capacity to assist with the community response and recovery efforts. Under the umbrella of the CMHA, all partner agencies will assess how the delivery of psychosocial and spiritual services will be mobilized and coordinated, maximizing access to available resources.

10.5.5 Food Services

An influenza pandemic will pose challenges for food services providers. If an influenza pandemic is severe, supply chains could be disrupted resulting in shortages of food. In addition, large numbers of the population could become ill. Similar to other services, it will be impossible to supply food to every individual in the community who falls ill, and efforts will focus on

populations requiring novel community support services. Food service efforts will focus on two areas: existing food programs and hot food.

Existing Food Programs

During any emergency, the working poor are often disproportionately affected. It is anticipated that this population will continue to require services during an influenza pandemic. It is also expected that there will be an influx of requests from individuals whose economic situation changes or who do not have alternate means of accessing food resources. Therefore, grocery efforts will continue to focus on existing food programs. In current programs, food is sorted and warehoused by category for distribution to member agencies and programs who then distribute it to individuals and families. The Food Bank of Waterloo Region will work to ensure this distribution system is maintained during an influenza pandemic.

Currently, there are more than 35 organizations that provide food hampers and/or provide an emergency food service. Given expected absenteeism rates, the Food Bank of Waterloo Region will work to consolidate services and identify a select few organizations that will continue to store food and provide food hampers to individuals in need.

The Food Bank of Waterloo Region and its member organizations will not act as a general grocery provider during an influenza pandemic. Most individuals/families will continue to purchase food through the private sector.

Hot Food

In some instances, there will be individuals who are unable to access existing food programs. This includes individuals who are too ill to leave their place of residence, and individuals who rely on their primary caregiver for food. Kitchener-Waterloo Meals on Wheels, Meals on Wheels & Community Home Support Services (Cambridge and North Dumfries), and Community Care Concepts of Woolwich, Wellesley and Wilmot will work to provide this service in Waterloo Region during an influenza pandemic. As part of the response effort:

- Two food options will be provided: frozen meals and hot meals. The primary strategy is to provide hot/frozen food only to those individuals that absolutely require it.
- Frozen meals will be provided to individuals who have access to the proper equipment. Hot meals will be provided to individuals/families that are unable to receive frozen meals. Hot meals will be provided once a day. Frozen meals will be distributed so they contain a three or seven day supply.
- All individuals/families will be responsible for payment of any service provided (e.g. food, delivery). The service will be provided at no cost to individuals/families that are unable to afford it; this will part of the screening process.
- Meals will be standardized, but developed in consultation with health officials.

10.5.6 Children's Services

The need for child care services will increase during an influenza pandemic. While it is unknown what age group will be more at risk than others, it is anticipated that there will be children whose parents are unable to care for them either on a permanent or temporary basis. In Waterloo Region, two child care services will be provided.

Protective Services

Family and Children's Services of Waterloo Region (F&CS) has the statutory responsibility to protect children in danger of physical and emotional harm. During a pandemic, F&CS will assume responsibility for the care of children (ages 0 – 16, or up to 18 years of age for children with a developmental disability) who lose their primary support caregiver. This includes children who lose their primary support or caregiver on a short-term basis (i.e. the length of the parent's illness) as a result of pandemic influenza.

Before a pandemic occurs, organizations that partner with F&CS will be consulted to assess their capacity to assist with the community response and recovery efforts related to the protection of children. Under the umbrella of F&CS, all partner agencies will assess how these resources will be mobilized and coordinated.

For children under their care, Family and Children's Services of Waterloo Region will continue to provide transportation services to medical appointments.

Child Care

The demand for personal child care services is expected to increase during a pandemic. Day-care centres and schools may be closed for certain periods during the peak of the pandemic (refer to Chapter 6 for information on public health measures during a pandemic). In addition, some individuals, particularly people who work for organizations involved in the response and recovery effort (e.g. health care workers, emergency responders), will be expected to work extra or non-traditional hours. To the extent possible, individuals and families should devise pandemic-specific alternate child care plans before an event occurs.

To try and build some surge capacity in the child care sector, Region of Waterloo Social Services will work with all licensed child care programs to promote business continuity planning in the home care provider sector, and assess their ability to increase services during a pandemic. As it will be impossible to provide these services for all individuals and families in Waterloo Region, priority will be given to front-line health care workers and emergency responders. There will also be limitations on any services provided:

- Services during an influenza pandemic will only be offered if child care programs are permitted to operate.
- Service provision may be limited. It will depend on child care programs' space availability and the ability to build surge capacity.
- All individuals and families will be responsible for payment of any service provided.

10.5.7 Animal Care Services

Given the number of individuals and families who will be affected by an influenza pandemic, it is anticipated that there will be a need for animal care services. Some pets will lose their owner, while others will require care on a short-term basis (i.e. the length of the owner's illness) if their owner is unable to care for them. In Waterloo Region, there will also be a need to assist farmers in rural areas with managing livestock.

The Humane Society of Kitchener-Waterloo and the Cambridge & District Humane Society will assume responsibility for the majority of animal care in Waterloo Region. This includes:

- Rescuing animals (including the operation of a mobile response unit in Kitchener-Waterloo)
- Assisting with the temporary housing and/or care of pets belonging to individuals who are unable to care for them (if resources permit)
- Recovering lost or injured animals
- Providing information to the public
- Emergency veterinary services

With respect to livestock, it is believed that most farmers have contingency plans in the event they are unable to care for their animals, or can call upon neighbouring farmers to assist when necessary. However, there will be a need to ensure a support system is in place for farmers without a plan of this nature. The Provincial Coordination Plan for an Influenza Pandemic highlights the role of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in terms of providing guidelines related to the management of livestock during a pandemic.

In the absence of guidelines, the Humane Society of Kitchener-Waterloo may assist with managing livestock, but its capacity to assist with this effort is limited. In the next planning stage, organizations such as the Ontario Federation of Agriculture and Ontario Cattlemen's Association will be contacted to gauge their ability to assist with planning, response and recovery efforts.

10.6 Vulnerable Populations

It is recognized that vulnerable populations will be disproportionately affected during an influenza pandemic. Governments and organizations currently find it difficult to provide services for these populations, and will find it even more difficult once a pandemic occurs. For purposes of this planning effort, vulnerable populations include:

- Individuals where English is not their first language
- Individuals with literacy barriers
- Non-residents
- Frail elderly
- Persons with a disability
- Persons with a mental illness

After consultation with the community support sector, it was determined that no one organization or group of organizations could assume a lead role in planning for these populations. Rather, efforts would be best directed to supporting organizations that currently provide services to these populations; in particular, assisting with service (business) continuity planning efforts. This assistance will be a vital component of the next planning effort. Region of Waterloo Public Health is also committed to working with these organizations to ensure pandemic-specific information reaches these populations.

10.7 Homeless Populations

Similar to vulnerable populations, there is no benefit to establishing one central agency that would be responsible for supporting homeless populations during an influenza pandemic. Current providers will maintain their operations to the best of their ability. Special provisions, however, will be made for vulnerable populations, including homeless populations, at the Influenza Assessment, Treatment and Referral Centres (Flu Centres). Once these provisions

are finalized, providers can then determine the role of homeless shelters in assisting homeless populations during an influenza pandemic.

Homeless shelters will be permitted to operate during an influenza pandemic. Region of Waterloo Public Health will work with shelters to determine the necessary infection prevention and control measures that need to be established in these settings.

10.8 How Individuals/Organizations will Access the System

There will be several key access points to the community support sector. These access points include:

- Acute settings (the three area hospitals)
- Influenza Assessment Treatment and Referral Centres (Flu Centres)
- Convalescent Care Centres
- The general information line
- Referral from community organizations, emergency responders (9-1-1 dispatch, Emergency Medical Services, Fire Department, etc.)

If an individual/family is requesting a single service they will be asked to phone that service provider directly. The organization will then assess (screen) the individual/family to determine if they qualify for supports. If the individual/family qualifies, the services will be provided. If the individual/family does not qualify they will be referred to other services (if available).

Any calls or requests for multiple supports will be directed to, and processed by, the Service Coordination and Referral. The centre will first assess (screen) the individual/family to determine if they qualify for supports (and which supports they qualify for). If they do qualify, the request will be forwarded to the respective organization(s) and the service will be provided. If the individual/family does not qualify they will be referred to other services (if available).

10.9 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding community support services include:

- Formalize the Community Support Control Group (members, etc.)
- Consult with (additional) organizations in the community support sector (re: food services, psychosocial and spiritual support services, children's services, animal care services) to assess their capacity to assist with the sector's response and recovery efforts.
- Develop the operational details pertaining to the response effort. This includes, but is not limited to:
 - Adapting or developing a web-based system to support the service coordination and referral functions. Ensure organizations involved in the response effort have the necessary infrastructure to access and use this system.
 - Develop screening tools (and algorithms) to determine who qualifies for services provided during a pandemic.

- Develop a volunteer recruitment, screening and coordination strategy. Devise and/or procure the necessary tools to facilitate the implementation of the strategy.
 - Develop the necessary tools and/or guidelines that individuals and organizations will use in the response and recovery effort.
- Work with the Influenza Assessment, Treatment and Referral Centre Advisory Committee and organizations in the health care sector to ensure the necessary linkages between the community support sector and health care sector are in place.

The Community Support Working Group also recommends that the Steering Committee complete the following during the next planning phase:

- Develop and implement a public information campaign on how to prepare for an influenza pandemic (e.g. develop alternate arrangements for child/elder care, assemble a first aid kit).
- Develop and implement a strategy to educate faith communities, neighbourhood associations and organizations in the community support sector about pandemic planning and service (business) continuity planning.

10.10 References and Supporting Documentation

City of Toronto. Toronto Pandemic Influenza Plan. Toronto Public Health. March 2006.

The Council of Emergency Social Services Directors (CESSD). The Role of Emergency Social Services (ESS) in Planning for Pandemic Influenza in Canada. The Council of Emergency Social Services Directors (CESSD). May 2006.

The Canadian Red Cross, the Salvation Army and St. John Ambulance. Voluntary Sector Framework for Health Emergencies. The Canadian Red Cross. 2006.

11 EMERGENCY SERVICES

Emergency Services refers to Waterloo Region Emergency Medical Services, Waterloo Regional Police Service and Waterloo Region's seven local municipal Fire Departments. It is recognized that these emergency response organizations will be overwhelmed during an influenza pandemic. While coping with high rates of employee absenteeism and call volumes (particularly to 9-1-1), demand for other services (e.g. security in the community) will increase and resources will become strained. As such, there is need to alter traditional response mechanisms when addressing the pandemic threat.

This chapter highlights the role of, and coordination between, emergency services during an influenza pandemic. This section also presents Emergency Medical Services' modified response effort.

11.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles, several planning considerations specific to the emergency services sector were created. These considerations outline key guidelines that will assist organizations involved in the planning, response and recovery efforts, and will also ensure the goals and guiding principles of the CPIP are upheld.

These planning considerations include:

- There is a need to minimize the duplication of response efforts and to minimize emergency responder exposure to a pandemic influenza virus.
- The sharing of staff between emergency service organizations — police, fire, Emergency Medical Services (EMS) – would be challenging and is not recommended during a pandemic response. Emergency service organizations will carry out their critical functions with their own staff. However, depending upon the severity of the pandemic, there may be opportunities to share resources (or to expand/explore mutual aid agreements) within a sector (especially fire).

11.2 Emergency Medical Services Response

Once a pandemic is declared, it is expected that there will be an influx of 9-1-1 calls despite communication efforts. As a result, the Cambridge Central Ambulance Communications Centre (CACC), which tiers emergency response calls, may experience high call volumes, particularly in the first wave of an influenza pandemic.¹⁰ Given the expected increase in calls, and other demands placed on Emergency Medical Services, there is a need to modify the EMS response.

The pandemic-specific EMS response structure is presented in Appendix 20, p. 261. All calls to 9-1-1 will be assessed using a standard screening process that will determine if the call is flu-related (Note: This screening tool is to be developed by the province). If the call is not related to the influenza pandemic, the normal tiered response protocols will be followed (see Appendix A

¹⁰ Attempts will be made to ensure that the public is aware that they should proceed to the appropriate health care facility instead of automatically dialling 9-1-1 for assistance. 9-1-1 should only be used for acute (very severe) cases.

and B). EMS response units will only be dispatched to urgent calls (as defined by the screening tool).

For non-flu-related calls, the response unit will assess the situation and:

- Direct the individual to the appropriate setting (e.g. hospital, physician office); or,
- Treat the patient (if applicable; subject to rules and regulations regarding the ability of paramedics to treat patients).

If the situation is urgent, but transport is delayed (or can be delayed given other demands on the system), it is anticipated a non-emergency patient transfer service¹¹ will be dispatched and will transport the individual to the appropriate setting.

Non-urgent, flu-related calls will be triaged to other health authorities such as Tele-health or the general information telephone line, which will provide the necessary information and referral services. Self-care guidelines will also be distributed through a variety of sources (e.g. Internet, telephone line, etc.).

As paramedics may become overwhelmed, an ambulance (i.e. the vehicle itself) may not be able to respond to calls that are deemed 'not urgent.' Therefore, a modified response¹², such as a mobile response (staffed by a medic or nurse), will be used in non-urgent situations.

For urgent, flu-related calls, the response unit will determine if:

- The individual could be left with a self-care guidelines/kit;
- The individual is able to stay at home with community support services;
- The individual needs to go to an Influenza Assessment, Treatment and Referral Centre (Flu Centres); or,
- The individual needs to go to the hospital.

Individuals that do not have friends, family or neighbours to assist with their care, but could stay at home with some support services will be referred to the community support sector for referral and information (refer to Chapter 10 for more information).

When possible, individuals requiring transport to a Flu Centre will proceed to the centre with a friend, family member, and/or neighbour. If the individual does not have someone to take them to a Flu Centre, the non-emergency patient transfer service will be dispatched to transport the individual. Individuals requiring transport to the hospital will be taken by EMS.

If the individual is deceased, the appropriate notifications will be made. Considerations for planning for a surge in natural deaths in Waterloo Region are provided in Chapter 17.

The EMS response process will continue to evolve throughout Waterloo Region's planning process, and as guidance documents and directives from the province are received.

¹¹ The non-emergency patient transfer service is still in the initial design stages. More information will be provided in future planning stages.

¹² The modified EMS response is still in the initial design stages. More information will be provided in future planning stages.

11.3 Tiered Protocol (Joint EMS, Fire and Police Response)

The tiered protocols outline how emergency services respond to calls in Waterloo Region (Appendices 21 and 22, p. 262 and 263). As resources during an influenza pandemic will be strained, there is a need to alter standard operating procedures so not all emergency services will respond to all influenza-related calls. As such, the tiered protocol needs to be revised. This will also work to prevent emergency responder exposure to the influenza virus during pandemic waves.

Currently, there are two tiered response categories in Waterloo Region — ‘A’ and ‘B’ — and the protocol that is used varies by municipality. Emergencies listed under the Tiered Response ‘A’ and ‘B’ Criteria include:

1. Unconsciousness
2. Difficulty / Absence of Breathing
3. Severe Bleeding (not for nose, vaginal or rectal bleeds)
4. Chest Pain or Suspected Heart Attack
5. Seizures
6. Unknown
7. Motor Vehicle Collision (Code 4 only)
8. All Farm & Industrial Entrapments and Accidents
9. Vital Signs Absent (VSA)

All calls to 9-1-1 will be assessed using a standard screening process that will determine if the call is flu-related (Note: The screening tool is to be developed by the province).

- **If the call is not flu-related**, the tiered response protocol will be followed.
- **For flu-related calls or for suspected flu-related calls**, the Fire Department will only respond if one or more of the nine (9) emergencies listed under the tiered response criteria are present (with the exception of emergency #2 — difficulty / absence of breathing).

As per the tiered response protocol, fire emergencies take precedence, and the Fire Department will respond to the above calls if they are not already engaged. If otherwise engaged, only EMS will be dispatched.

During all pandemic waves, individuals that contract the virus may have difficulty breathing; therefore, the difficulty/absence of breathing criteria (#2) needs to be redefined to reduce the number of calls requiring a tiered response. The provincial screening tool will be used to assess the severity of each case; only the most serious flu-related calls (where difficulty/absence of breathing is a factor) will be tiered.

If both EMS and the respective Fire Department are dispatched, there are five possible scenarios:

- Fire Department arrives on the scene first
- EMS and firefighters arrive at the same time
- EMS is not going to arrive
- EMS arrives first
- Fire Department is unable to respond

11.3.1 When the Fire Department arrives before EMS

If the Fire Department arrives before EMS, a maximum of two (2) firefighters should enter the home/facility. When possible, only one firefighter should assess the situation/patient(s). After assessment, the firefighter(s) will begin to provide the necessary care.

EMS, upon arrival, will assume control of the situation and provide the necessary care. After an initial assessment, EMS personnel will determine if assistance from the Fire Department is required. The firefighter(s) will only leave when released by EMS, or when dispatched to a fire-related emergency.

11.3.2 When EMS and the Fire Department arrive at the same time

If the EMS responders and Fire Department arrive at the same time only EMS responders should enter the home/facility. EMS, upon arrival, will complete the assessment and the necessary response.

Firefighter(s) should only enter upon request by EMS personnel. The Fire Department will leave when released by EMS personnel, or when dispatched to a fire-related emergency.

11.3.3 When EMS is not going to arrive

If the call is urgent, and if EMS resources are strained (i.e. response times are lengthy), the Fire Department will respond to the call even if it is flu-related. The firefighter(s) will provide sustained patient care until an ambulance or the modified EMS response unit (as per Section 11.2) can be dispatched. Whenever possible, the individual will proceed, with the assistance of family, friends or neighbours, to a Flu Centre.

The Fire Department will not transfer individuals to a Flu Centre or the hospital.

11.3.4 When EMS arrives first

If EMS arrives before the Fire Department, EMS responders should enter the home/facility. EMS, upon arrival, will complete the assessment and the necessary response.

Firefighter(s) should only enter upon request by EMS personnel. The Fire Department will leave when released by EMS personnel, or when dispatched to a fire-related emergency.

11.3.5 When a Fire Department is unable to respond

If an influenza pandemic is severe, emergency response organizations may find it difficult to continue all of their operations as a result of staff absenteeism and/or lack of resources. If a Fire Department decides that it only has the capacity to respond to fire-related calls, it will immediately inform the Regional Pandemic Control Group (via the chair) of its inability to respond to tiered calls. The RPCG will then assess the implications of the Fire Department's decision and work to mitigate its effects (refer to Section 4.2.5 for information on the RPCG).

11.3.6 Waterloo Regional Police Service

Waterloo Regional Police Service (WRPS) response will also be based on the tiered protocol:

- **If the call is not flu-related**, the Tiered Response 'A' Category will be followed
- **For flu-related calls or for suspected flu-related calls**, the WRPS will not be dispatched. WRPS will only be requested to attend upon request of EMS or Fire Department personnel. WRPS may be called if the death is questionable or if there are security concerns.

If Waterloo Regional Police Service officers/staff attend a call and arrive at the same time (or after) EMS or the Fire Department, only the EMS or Fire Department responders should enter the home/facility (based on 11.3.1 – 11.3.5).

Waterloo Regional Police Service personnel should only enter the scene upon request by EMS and/or the Fire Department. The WRPS will leave when released by EMS and/or the Fire Department, or when dispatched to another police emergency.

Waterloo Regional Police Service will not transfer individuals to a Flu Centre or the hospital.

11.4 Infection Prevention and Control Measures

Chapter 13, Section 13.6.7 provides direction, specific to emergency responders, regarding infection prevention and control. This covers items such as hand hygiene, environmental cleaning, and disposal of equipment. All emergency responders will be expected to follow these guidelines during an influenza pandemic.

However, some overarching guidelines apply to the emergency response situations covered in Sections 11.3.1 to 11.3.6:

- EMS personnel will follow standard policies and procedures pertaining to the use of personal protective equipment (refer to Chapter 13 and the EMS Policy & Procedure Manual Section #6, Policy #9).
- When arriving at the scene, Fire Department and WRPS personnel should don the appropriate personal protective equipment.
- To the extent possible, Fire Department and Waterloo Regional Police Service personnel should not come within one metre (three feet) of suspected cases.
- After leaving the home/facility, all emergency responders will follow the necessary infection prevention and control procedures.

11.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available. The next planning steps for emergency services include:

- Devise screening tools for 9-1-1 operators and emergency responders.
- Plan for the modified EMS response and for the non-emergency patient transfer services.

- Develop and implement pandemic-specific training programs for EMS, Fire Department and Waterloo Regional Police Service personnel, based on this chapter and the infection prevention and control guidelines. Training programs should be consistent between emergency response organizations. There may be opportunities for training through the Designated Officer program.

PART IV:
HEALTH CARE AND EMERGENCY RESPONSE SECTOR
RESPONSE TOOLS AND GUIDELINES

12 EQUIPMENT AND SUPPLIES

During an influenza pandemic, all health care settings and emergency response organizations will require large quantities of equipment and supplies in order to care for individuals that become ill, and to protect frontline workers. Demand for these equipment and supplies, however, will be high, and if an influenza pandemic is severe, supply chains may be disrupted resulting in shortages. As a result, health care and emergency response organizations must ensure they stockpile the necessary equipment and supplies for use during an influenza pandemic. This includes developing a system to purchase, store and distribute those supplies.

For planning purposes, health care organizations include:

- Community Care Access Centres
- Community Health Centres
- Community Support Services (Attendant Care)
- Emergency Medical Services
- Home Care Providers
- Hospitals
- Independent Practitioners (e.g. primary health care providers, midwives)
- Laboratories (community, hospital)
- Long-Term Care Homes
- Mental Health, Addiction and other Community Agencies
- Mortuary Services
- Organizations responsible for Influenza Assessment, Treatment and Referral Centres (Flu Centres)
- Public Health

Emergency response organizations include:

- Fire Departments
- Police Services

12.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles several planning considerations specific to equipment and supplies were created. Developed by representatives from health care and emergency response organizations, these outline key assumptions that will guide organizations involved in the planning, response and recovery efforts. These considerations will also ensure the goals and guiding principles of the CPIPP are upheld.

These planning considerations include:

- The Ministry of Health and Long-Term Care (MOHLTC) is developing and implementing a comprehensive pandemic procurement strategy to purchase and warehouse critical health care supplies. Currently, the ministry is focused on procuring infection control supplies and mass vaccination supplies.
- The MOHLTC asks that all health care settings/providers plan for and maintain a four-week stockpile of personal protective equipment and other critical supplies.

- The ability of health care organizations to stockpile equipment and supplies may be dependent on financial assistance from senior levels of government.
- The MOHLTC is procuring a four-week provincial stockpile that organizations will be able to access when/if their individual stockpiles are exhausted.
- Community physicians outside of hospitals, community health centres and midwives received an emergency infection control kit from the MOHLTC, which include enough supplies to protect themselves, their staff and their patients during the first seven to 10 days of an outbreak of a droplet-spread illness.
- The MOHLTC developed preliminary templates of generic equipment and supplies required to provide care for people in the community and in the hospital.
- Any recommendations regarding the use of personal protective equipment is the responsibility of infection prevention & control and occupational health & safety specialists and the MOHLTC. Please refer to Chapter 13 for information on infection prevention and control.
- The Public Health Agency of Canada (PHAC) states that “there is no evidence that the use of masks in general public settings will be protective when the virus is circulating widely in the community.” (CPIP, Annex F, 4).

12.2 Stockpiling in Waterloo Region (Health Care Organizations, including EMS)

Health care organizations in Waterloo Region, represented on the Equipment and Supplies Working Group, discussed the possibility of developing and issuing a Request for Proposal to purchase critical supplies for all health care organizations. However, due to varying clinical practices at health care institutions, current agreements with different suppliers, and logistical (administrative and financial) concerns, it was decided this approach was not reasonable. Therefore, it is recommended that each health care setting/organization (individually or with other organizations) plan for, purchase, and maintain their own stockpile of personal protective equipment. The ESWG also recommends that organizations consider maintaining a six-week stockpile of all essential supplies.

To assist health care organizations in their planning efforts, it is recommended that they use the MOHLTC templates which present a list of general supplies that various health care settings should consider stockpiling — refer to http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html. The formulae used in the templates are based on the assumption that organizations will require equipment and supplies over and above those normally required to deliver patient care. The formula for estimating requirements is based on the 35 per cent pandemic attack rate or 35 per cent surge capacity requirement, which is the assumption for pandemic planning in Ontario.

As each institution is unique, and as each organization’s role may be different during a pandemic, organizations should also determine what specific or specialized equipment and supplies are required. This will be based on services provided by each provider as well as organizational service (business) continuity plans, and their commitments outlined in Waterloo Region’s Community Pandemic Influenza Preparedness Plan.

12.3 Stockpiling in Waterloo Region (Emergency Response Organizations)

Similar to health care organizations, it is recommended that emergency response organizations plan for, purchase, and maintain their own stockpile of personal protective equipment. The ESWG also recommends that organizations consider maintaining a six-week stockpile of all essential supplies.

To date, templates for emergency response organizations have not been developed, and it is suggested they collaborate with Emergency Medical Services on stockpiling requirements.

12.4 Influenza Assessment, Treatment and Referral Centres (Flu Centres)

Influenza Assessment, Treatment and Referral Centres will require specialized equipment and supplies. A preliminary list of requirements is available in the Canadian Pandemic Influenza Plan. Operation planning related to Flu Centres will be part of the next planning stage, and equipment and supply specialists will be invited to participate on the Advisory Committee (refer to Appendix 13, p. 238).

12.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding equipment and supplies include:

- Each health care and emergency response organization is to work to stockpile the necessary equipment and supplies to ensure continuity of key critical services and to protect employees.
- Participate on the Influenza Assessment, Treatment and Referral Centre Advisory Committee.
- Plan for Influenza Assessment, Treatment and Referral Centre equipment and supply needs.

13 INFECTION PREVENTION AND CONTROL

13.1 Overview of the Chapter

13.1.1 Scope and Purpose

The following chapter is considered to be a working draft of infection control guidelines, proposed by the Community Pandemic Influenza Preparedness Plan (CPIPP) Occupational Health & Safety and Human Resources Working Group (OH&SHRWG), which are to be activated during an influenza pandemic. This chapter (which can be used as a 'stand alone' document) follows from the recommendations outlined in a variety of peer-reviewed and national pandemic influenza plans, which are referenced in section 13.7 of this chapter. These guidelines are meant to assist healthcare workers and practitioners understand the measures necessary and equipment/supplies required to protect them and their patients from a pandemic influenza virus once it is in circulation in the community. This guidance document also addresses the health and safety measures that need to be considered when in contact with pandemic influenza patients.

NOTE: Prior to the World Health Organization's (WHO) declaration that a pandemic virus has emerged, hospitals, practitioners, and healthcare staff should be alert for cases of influenza caused by a novel virus. The number of such cases is expected to be small and most likely to occur in travellers returning from affected parts of Southeast Asia. The infection control guidance in this document does not apply to the management of these cases and practitioners should follow current guidelines as issued by the Provincial Infectious Diseases Advisory Committee and the Ministry of Health and Long-Term Care. .

Moreover, the infection prevention and control guidance in this chapter is specific to measures that would be followed by staff and healthcare workers (HCWs) in any type of healthcare environment (e.g. acute care facility, long-term care home, residential care).

For planning purposes it is assumed that a pandemic strain of influenza will have similar transmission, communicability, and inactivation properties as "routine" seasonal influenza. Influenza is transmitted from person-to-person through close contact. **The balance of evidence points to large droplet, and direct and indirect contact, as the most important routes of transmission.** However, airborne, or fine droplet transmission, may also occur. In view of this, **Routine Practices and Droplet and Contact Precautions** are the principal infection prevention and control strategies that should be rigorously followed. In certain circumstances, these control measures may need to be augmented with higher levels of respiratory protection. Scrupulous attention to **hand hygiene** and **containment of respiratory secretions** produced by coughing and sneezing will be essential in reducing the transmission of pandemic influenza. Other key recommendations include **separation or cohorting of pandemic influenza patients** from non-pandemic influenza patients; **prompt identification** of healthcare workers with pandemic influenza; **restriction of ill workers and visitors** from healthcare settings; and, **education of staff, visitors, and patients** about the transmission and prevention of influenza that is understandable and applicable to their particular situation.

This chapter will be updated if epidemiologic and virologic information on the eventual pandemic virus indicates that adjustments in approach to infection prevention and control are necessary. Users are strongly urged to refer to the most up-to-date version of this chapter and the Ontario Health Plan for an Influenza Pandemic (latest version: September 2006):

http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html

13.1.2 Organization of the Chapter

The initial portion of this document provides general information related to infection control precautions, including the use of personal protective equipment (PPE) and environmental infection control guidelines for the proper cleaning of equipment and disposing of waste. The latter sections of this document refer to specific infection prevention control guidance for a range of healthcare settings. Additional appendices are also included (refer to Appendix 23, p. 264).

13.1.3 Key Terms and Acronyms

Airborne Transmission: Refers to the dissemination of either airborne droplet nuclei (small particle residue $<5\mu\text{m}$ in size of evaporated droplets) or dust particles containing the infectious agent. Such microorganisms remain suspended in the air for long periods of time and are widely dispersed by air currents. The microorganisms are inhaled by susceptible hosts, who may be some distance away from the source patient, depending on environmental factors.

Avian Influenza: An infectious disease of birds caused by type A strains of the influenza virus. The disease occurs worldwide. While all birds are thought to be susceptible to infection with avian influenza viruses, many wild bird species carry these viruses with no apparent signs of harm. Some avian influenza viruses can also infect and cause illness in humans (e.g. H5N1).

Droplet and Contact Precautions: Precautions designed to reduce the transmission of disease spread by contact with respiratory secretions generated by sneezing, coughing or by procedures generating aerosols such as intubation.

Hand Hygiene: Hand hygiene with soap and running water (normally a minimum of 15 seconds contact time with soap) or use of alcohol-based hand sanitizers (60-90% alcohol, isopropanol or ethanol alcohol) for 15-30 seconds.

Healthcare Worker (HCW): Refers to **all** workers employed in healthcare settings. It is used in an inclusive context and is **not** restricted to those professions traditionally regarded as healthcare workers (e.g. doctors, nurses, specialists, etc.). Also refers to persons who may carry out activities in the hospital or other healthcare settings, including employees, students, medical staff, volunteers and contract workers.

Flu Centre: Influenza Assessment, Treatment, and Referral Centre. Community-based assessment and treatment centres to be activated during a pandemic to ease the burden of patient visits at acute care facilities, and to allow primary care providers to continue to provide a range of services. Refer to Section 9.2.2 for more information.

Influenza: In this document, largely refers to cases of pandemic influenza confirmed by laboratory test(s) or based on clinical signs/symptoms. A laboratory-confirmed diagnosis of influenza is most likely to be obtained during the very early stages of a pandemic. As the number of patients rapidly increases and health professionals become more proficient at making a clinical diagnosis, confirmatory laboratory testing is likely to diminish significantly and almost all patients will only be diagnosed on clinical grounds.

Influenza-like Illness (ILI): Acute onset of respiratory illness with fever and cough, and one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to influenza virus. In children under five, gastrointestinal symptoms may also be present. In persons under five or 65 and older, fever may not be prominent.

MOHLTC: Ontario Ministry of Health and Long-Term Care

Modes of Transmission: in hospital epidemiology, routes of transmission of infectious agents have been classified as contact, droplet, airborne, common vehicle and vectorborne. Contact is the most common route of transmission of microbes from symptomatic or asymptomatic patients in hospitals. On paediatric wards, droplet transmission is also common. Airborne and common vehicle transmissions occur less frequently and vectorborne transmissions are rare.

OHPIP: Ontario Health Plan for an Influenza Pandemic

PIDAC: Provincial Infectious Diseases Advisory Committee (committee reports to the Chief Medical Officer of Health for Ontario)

PPE: Personal Protective Equipment; refers to equipment worn to prevent the transmission of disease while in contact with patients with transmissible disease.

Pandemic Influenza: Strains of influenza are continuously circulating throughout the world at any given time. Only influenza A viruses are associated with pandemics. Influenza pandemics arise when all four of the following occur:

- A novel influenza A virus emerges;
- The new virus can spread efficiently from human to human;
- The new virus causes serious illness and death; and,
- The population has little or no immunity to the new virus.

Routine Practices: Infection prevention and control precautions in healthcare settings that are designed to prevent or at least minimize the transmission of infection from both recognized and unrecognized sources of infection. Healthcare workers must exercise caution and wear personal protective equipment when ever there is contact with:

- Blood;
- All body fluids, secretions and excretions, except sweat; and,
- Non-intact skin and mucous membranes.

13.2 Overview of Influenza and Infection Prevention and Control

KEY POINTS

Clinical features of seasonal influenza:

- Symptoms can include fever, cough, headache, sore throat, runny or stuffy nose, aching muscles and joints, and extreme fatigue.
- **Adults can be infectious from a day before symptoms begin through about 5 days after illness onset. Children can be infectious for up to 7 days; young children can shed virus for several days before becoming ill.**
- Pandemic influenza could result in more serious illness due to little or no immunity to the new virus in the community.

How influenza is spread:

- Transmitted directly from person-to-person through close contact (within 3 feet or 1 metre). Balance of evidence points to large droplet, and direct and indirect contact transmission as the most important routes.
- Fine droplet transmission may also occur, especially during aerosol generating procedures.

Prevention of influenza transmission:

- Strict adherence to infection control practices especially hand hygiene, containment of respiratory secretions, and the use of personal protective equipment (PPE).
- Adherence to Routine Practices and Droplet and Contact Precautions.
- Administrative controls (e.g. separation or cohorting of patients with pandemic influenza).
- Restriction of symptomatic workers and visitors.
- Education of staff, patients and visitors regarding transmission and prevention of influenza infection.

13.2.1 Clinical Features and Transmission

Although the spectrum of clinical disease associated with a novel influenza subtype cannot currently be determined, many experts have noted that the clinical features of the anticipated pandemic influenza virus will be similar to those found in seasonal influenza infections. The characteristics of a pandemic virus — such as clinical attack rate, severity of the illness it causes, affected age groups, and resulting fatality rate — will not be known until the virus actually emerges.

The incubation period of seasonal influenza generally ranges from one to three days. People with influenza are able to transmit the virus for up to 24 hours before symptoms appear. Adults are infectious for five days after symptoms appear, while children are infectious for up to seven days after symptoms appear.

13.2.1.1 *Mode of Transmission*

- Human influenza virus is transmitted primarily via large respiratory droplets (particles >5 µm in diameter) when infected persons cough or sneeze.
- Large droplets can be directly deposited onto the mucosal surfaces of the upper

respiratory tracts of susceptible persons who are near the droplet source (within 3 feet, or 1 metre).

- Droplet-spread infections pass from one person to another with ease.
- Transmission may also occur through direct and indirect contact with respiratory secretions; the illness can be transmitted when people touch or have contact with hands, surfaces, and objects contaminated with respiratory droplets and then touch or have contact with their own or someone else's mucous membranes.

13.2.2 Core Principles of Containment and Infection Prevention and Control

During an influenza pandemic, healthcare workers can be exposed to persons with influenza both through their normal daily lives (outside of work) and in healthcare settings. Limiting transmission of pandemic influenza in the healthcare setting requires application of widely accepted principles of infection prevention and control, including:

- Timely recognition for cases of influenza. In the current pre-pandemic period, having a high index of suspicion for possible rare cases of influenza caused by a novel strain of virus is particularly critical.
- Consistent and correct implementation of appropriate infection prevention and control precautions to limit nosocomial transmission. Routine, droplet, and contact precautions are applicable in most circumstances. In certain situations these control measures may need to be augmented with higher levels of respiratory protection.
- Administrative controls, such as the isolation or cohorting of pandemic influenza patients from non-pandemic influenza patients.
- Use of auxiliary measures such as restricting ill workers and visitors from the facility and posting of pertinent signage in unambiguous language.
- Education of staff, patients, and visitors about the transmission and prevention of influenza that is understandable and applicable.
- Treatment of ill patients, physicians, and healthcare staff with antivirals, when available, which can reduce infectiousness and the duration of illness.
- Annual influenza vaccination of patients and staff.

During the initial stages of a pandemic, there may be limited supplies of antivirals and a vaccine specific to the pandemic strain will not likely be available. Both interventions will therefore be prioritized, in accordance with the federal government's priority list of recipients for both vaccine and antivirals. Therefore, attention to non-pharmaceutical methods of control as outlined in this chapter will be particularly important to reduce transmission.

13.3 Infection Prevention and Control Precautions during a Pandemic

13.3.1 Overview

- During the influenza pandemic, adherence to strict infection control practices will be essential to prevent/minimize transmission of influenza in healthcare environments.
- Planners should refer to the document entitled Preventing Febrile Respiratory Illnesses: Protecting Patients and Staff, produced in September 2005 (revised August 2006) by the Ontario Provincial Infectious Diseases Advisory Committee (PIDAC). For more detailed guidance, please visit <http://www.health.gov.on.ca> (go to "Health Care Providers"; then "Provincial Infectious Diseases Advisory Committee"; and then "Febrile Respiratory Illness").
- Additionally, the Ontario Health Plan for an Influenza Pandemic (2006) can be found at:

13.3.2 Hand Hygiene and Cough Etiquette

Frequent and thorough hand-hygiene and routine infection control practices are vital in preventing the spread of influenza. The following are general guidelines that should be followed by all staff, visitors and patients in healthcare environments (both at the facility and at home):

- Frequent and thorough hand hygiene, either with soap and warm running water (for at least 15 seconds), or alcohol-based hand sanitizer (60-90% isopropanol or ethanol, for at least 15-30 seconds), is the single most important measure for preventing infections.
- However, alcohol-based hand sanitizers are not effective when hands are visibly dirty.
- When access to sinks or warm running water is limited, moist alcohol-based wipes should be used to remove visible dirt prior to using alcohol-based hand sanitizers.

All healthcare environments should design, implement, and reinforce an awareness campaign to educate all personnel regarding routine infection control practices that can prevent the spread of respiratory illness.

Education campaigns for routine infection control practices should also include cough etiquette, which includes:

- Covering one's nose and mouth with a disposable, single-use tissue when coughing or sneezing, or coughing/sneezing into the upper sleeve;
- Appropriate disposal of tissues directly after use; and,
- Hand hygiene after coughing/sneezing, and after handling used tissues.

13.3.3 Management of the Coughing and Sneezing Patient

Patients, in addition to staff and visitors, should be encouraged to minimize potential influenza transmission through good hygienic measures as follows:

- Cover nose and mouth with disposable single-use tissues when sneezing, coughing, wiping, and blowing noses, or cough/sneeze into the upper sleeve.
- Dispose of used tissues in nearest waste bin directly after use.
- Perform hand hygiene after coughing, sneezing, using tissues, or contact with respiratory secretions and contaminated objects.
- Keep hands away from the mucous membranes of the eyes, nose, and mouth.
- Certain patients (e.g. the elderly, children) may need assistance with containment of respiratory secretions; those who are immobile will need a receptacle (e.g. a plastic bag) readily at hand for immediate disposal of tissues and a supply of tissues and hand sanitizer.

The masking of the coughing/sneezing patient may also be considered. Where possible, in common waiting areas or during transport (e.g. from the community to an acute hospital or from one area of the hospital to another), coughing/sneezing patients should wear surgical masks to assist in the containment of respiratory secretions and to reduce environmental contamination.

13.3.4 Personal Protective Equipment (PPE)

13.3.4.1 Overview

PPE should be worn within 1 metre of a patient and followed in accordance with droplet and contact precautions.

For detailed instructions on droplet and contact precautions in non-outbreak conditions, please see the OHPIP – Chapter 7A: Infection Prevention and Control and Occupational Health and Safety – Tools.

Stringent and proper use of PPE protects staff from contamination with body fluids and thus reduces the risk of transmission of pandemic influenza between patients and staff, and from one patient to another. Appropriate PPE for care of patients with pandemic influenza is summarized in Table 10. Attention to the correct donning and removal of PPE is essential to avoid inadvertent contamination. All contaminated clothing must be removed before leaving a patient care area, with surgical masks/respirators being removed last.

PPE should comply with the OHPIP (Chapter 7A: Infection Prevention and Control and Occupational Health and Safety – Tools):

http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html

Recommended Process for Removing PPE (FRI Guidelines from PIDAC)

After the health care provider has completed patient care and is >1 metre distance from the patient:

- Remove gloves and discard using a glove-to-glove/skin-to-skin technique.
- Remove gown (discard in linen hamper in a manner that minimizes air disturbance).
- Perform hand hygiene.
- Remove eye protection and discard or place in clear plastic bag and send for decontamination as appropriate.
- Remove mask/respirator and discard.
- Perform hand hygiene.

This is a minimum procedure. If health care providers believe their hands have become contaminated during any stage of PPE removal, they should perform hand hygiene before proceeding further.

Note: Sinks that patients use may be heavily contaminated and should not be used by health care providers for hand hygiene unless no other alternative is available.

13.3.4.2 *Surgical masks*

A good quality surgical/procedure mask should be worn by health care workers for close patient contact (within 3 feet/1 metre). This will provide a physical barrier and minimize contamination of facial mucosa by large particle droplets, one of the principal ways influenza is transmitted.

If pandemic influenza patients are cohorted in one area and multiple patients must be visited over a short time or in rapid sequence (e.g. cohorted areas of a hospital or nursing home, an “influenza clinic” or alternative assessment and triage site), it may be practical to wear a single surgical mask and eye protection upon entry to the area, and to keep it on for the duration of the activity or until the surgical mask requires replacement (i.e. it is wet or the time limit according to the manufacturer has expired).

However, other PPE (e.g. gloves, gown) must be removed between patients and hand hygiene performed.

All contaminated PPE must be removed before leaving a patient care area. **Surgical masks or N95 respirators should be removed last, followed by thorough hand hygiene.**

Surgical/procedure masks should:

- Cover both the nose and the mouth and not be allowed to dangle around the neck after usage;
- Not be touched once put on;
- Be changed when they become moist or time limit expires;
- Be worn once and discarded in an appropriate receptacle as clinical waste; hand hygiene must be performed after disposal is complete; and,
- Be handled using only the ties or ear loops when being removed; the front of the mask should not be touched.

NOTE: A “Fluidshield” mask with incorporated visor may be substituted for a surgical mask and separate eye protection

13.3.4.3 *N95 Respirators for Respiratory Procedures that generate droplets/aerosols*

An N95 respirator is recommended as the standard of protection for health care workers when performing respiratory procedures generating droplets/aerosols.

Procedures that generate droplets/aerosols include:

- Nebulized therapies
- Aerosol humidification
- Use of bag-valve mask to ventilate a patient
- Endotracheal intubation
- Airway suctioning
- Tube or needle thoracostomy
- Bronchoscopy or other upper airway endoscopy
- Tracheostomy
- Non-invasive ventilation (CPAP, BiPAP) in people with acute illness, sputum induction

To avoid unnecessary exposures, only those healthcare workers needed to perform the procedure should be present. In addition to respirators, eye protection must be worn to prevent eye contact with infectious material during such procedures.

Fit testing: As per Ontario labour regulation 67/93, Sections 10.(1) and 10.(2), every user should be fit tested and trained in the use of the respirator. The “fit” of the respirator is critically important and a fit check should be carried out each time a respirator is worn:

- The respirator must seal tightly to the face or air will enter from the sides.
- A good fit can only be achieved if the area where the respirator seals against the skin is clean-shaven.
- Beards, long moustaches, and stubble may cause leaks around the respirator and should not be permitted in the event that the wearing of respirators is required.

Changing and disposal: If breathing becomes difficult, the respirator becomes damaged or distorted or contaminated by body fluids, or if a proper face fit cannot be maintained, the wearer should go to a safe area and change the respirator immediately.

N95 respirators should be replaced after each use. If during the process of providing care, respirators become contaminated with a patient’s respiratory secretions, they should be disposed of immediately. Respirators should be disposed of as clinical waste according to local infection control policy. The front of the respirator should not be touched during removal.

13.3.4.4 *Eye protection*

Eye protection should be worn when providing direct patient care (within 1 metre).

The use of eye protection should also be considered when there is a risk of contamination of the eyes by splashes and droplets (e.g. blood, body fluids, secretions, and excretions generated through patient care). This should be an individual risk-assessment at the time of providing care.

Eye protection should always be worn during aerosol-generating procedures.

Eye protection can be achieved by the use of any one of the following:

- Surgical mask with integrated visor;
- Full face visors; or,
- Polycarbonate safety spectacles or equivalent.

Prescription eye glasses are not acceptable eye protection.

Of note, non-disposable eye protective equipment (e.g. polycarbonate safety spectacles issued as personal equipment to staff on a long-term basis) poses a potential cross-infection risk. It is important that any such items are decontaminated after use with agents recommended by the manufacturer, and when leaving an influenza patient segregated area prior to performing final hand hygiene.

13.3.4.5 *Gloves*

Routine Practices require that gloves be worn for:

- Invasive procedures;
- Contact with sterile sites, non-intact skin, and mucous membranes;

- During all activities that carry a risk of exposure to blood, body fluids, secretions (including respiratory secretions) and excretions; and,
- When handling sharp or contaminated instruments.

Gloves should be worn by HCWs when providing care involving direct contact with a patient suspected of having pandemic influenza.

Gloves should be removed immediately after use and between patients or patient care activities. They should then be disposed of as clinical waste and hand hygiene performed. **No attempt should be made to wash gloves for subsequent reuse.**

If glove supplies become limited during a pandemic, priorities for glove use may need to be established. In this circumstance, gloves should always be prioritized for staff coming into contact with blood and bloody fluids, completing invasive procedures, and coming into contact with sterile sites.

13.3.4.6 Gowns

Gowns are required for providing routine care of patients with influenza (within one metre). And, gowns should be worn if:

- Extensive soiling of personal clothing or uniform with respiratory secretions is anticipated, or
- There is risk of extensive splashing of blood, body fluids, secretions, and excretions onto the skin of the healthcare worker.

Procedures such as intubation and activities that involve holding the patient close (e.g. in paediatric settings) are examples of when a gown may be needed. Gowns should:

- Fully cover the area to be protected, and
- Be worn only once and then placed in a waste or laundry receptacle as appropriate, and hand hygiene performed immediately after removal.

Table 10: Personal Protective Equipment for Care of Patients with Pandemic Influenza^a

	ENTRY TO COHORTED AREA BUT NO PATIENT CONTACT^a	CLOSE PATIENT CONTACT (<3 FEET)	RESPIRATORY PROCEDURES THAT GENERATE DROPLETS/AEROSOLS
Hand hygiene	Yes	Yes	Yes
Gloves	No ^d	Yes ^e	Yes
Gown	No	Yes	Yes
Surgical mask	Yes	Yes	No

	ENTRY TO COHORTED AREA BUT NO PATIENT CONTACT^a	CLOSE PATIENT CONTACT (<3 FEET)	RESPIRATORY PROCEDURES THAT GENERATE DROPLETS/AEROSOLS
N95 respirator	No	No	Yes
Eye protection	No	Risk Assessment	Yes

Legend:

- a. Standard Precautions apply at all times.
- b. Examples of respiratory procedures that generate droplet/aerosols include nebulized therapies, use of bag-valve mask to ventilate a patient, endotracheal intubation, airway suctioning, needle or tube thoracostomy, bronchoscopy or other upper airway endoscopy, tracheostomy, non-invasive ventilation (CPAP, BiPAP in people with acute illness, and sputum induction).
- c. Wherever possible, droplet/aerosol generating procedures should be performed in a single room with the door closed using experienced staff. If the procedure is done in an area where the patient cannot be isolated, then curtains should be drawn and all non-essential persons kept at least one metre away from the patient. An adjacent area should be used for decontamination.
- d. Gloves and gown should be worn during certain cleaning procedures.
- e. Gloves should be worn in accordance with routine practices. If glove supplies become limited, this recommendation may need to be relaxed. Glove use should always be prioritized for contact with blood and body fluids, invasive procedures, and contact with sterile sites.

13.4 Environmental Infection Control

13.4.1 Patient Care Equipment

Providers should only take the equipment they will need into the area where care will be provided.

All contaminated surfaces and equipment should be cleaned following a high risk procedure. Surfaces should be cleaned and disinfected, and equipment discarded or disinfected by staff performing any respiratory procedure that generates droplets/aerosols *before* leaving the room and *before* removing PPE. Staff should not re-enter the room until it has been cleaned.

Furthermore:

- Soiled patient care equipment should be handled in a manner that prevents exposure of skin and mucous membranes, and contamination of clothing and the environment.
- Equipment that is visibly soiled should be cleaned promptly with soap and water, detergents, or enzymatic cleaners.
- Disposable equipment should be used as much as possible (e.g. thermometers).
- Reusable equipment (e.g. stethoscopes) must be scrupulously decontaminated between each patient; equipment that is visibly soiled should be cleaned promptly.
- Empty bed pans and urinals by carefully pouring and rinsing contents into toilet. Avoid aerosol generation and do not clean using hoses or hoppers.
- All patient care equipment must be cleaned following the Health Canada recommendations published in *Infection Control Guidelines Hand Washing, Cleaning, Disinfection and Sterilization in Health Care* (1999).
- Whenever possible, non-critical patient equipment should be dedicated for use by pandemic influenza patients only.
- Use of equipment that re-circulates air (e.g. fans) should be avoided.
- Used sharps must be discarded into a sharps container at the point of use. These must not be filled above the mark indicating that they are full. Containers in public areas must not be placed on the floor and should be located in a safe position.

13.4.2 Environmental Cleaning and Disinfection

General environmental cleaning and disinfection standards include:

- Cleaning schedules may vary by setting. Pandemic treatment areas should be cleaned between patients.
- A hospital-grade disinfectant should be used in isolation rooms with special attention to horizontal surfaces and “high touch” areas. In addition, the area surrounding the patient (one metre) should be decontaminated after performing procedures that generate aerosols/droplets.
- Damp, rather than dry, dusting should be performed to avoid generating dust particles.
- Dedicated or single-use disposable equipment should be used.

13.4.3 Clinical and non-clinical waste

No special handling procedures beyond those of routine practices are recommended for clinical and non-clinical waste that may be contaminated with the pandemic influenza virus. Waste generated within the clinical setting should be managed safely and effectively, with attention paid to the disposal of items that have been contaminated with secretions/sputum (e.g. paper tissues), in addition to other routine and domestic waste management. Please refer to the local waste policy as needed.

Liquid waste such as urine and feces can be safely disposed of into the sewage system.

All waste collection bags should be tied and sealed before removal from the patient area. Gloves should be worn when handling ALL waste and hand hygiene performed after the removal of gloves.

13.4.4 Linen and Dishes

General standards for cleaning linen and dishes include:

- Routine Practices should be applied when handling used dishes, linen, and waste.
- Disposable dishes are not required. However, some areas may wish to use these for operational reasons.
- Dishes should be returned directly to the meal tray cart.
- Whenever possible, used dishes should be washed using a dishwasher and not by hand.
- Linen should be transported from the patient's room in closed laundry bags. Wet items must be contained.
- Double bagging, however, is not required.
- Gloves and aprons should be worn for handling all contaminated linen.
- Hand hygiene should be performed after removing gloves that have been in contact with soiled linen and laundry and used dishes.

13.4.5 Furnishings

Remove all non-essential furniture, especially soft furnishings, from reception and waiting areas in hospitals, consulting and treatment rooms, patient rooms, influenza assessment centres, and day rooms/lounges. The remaining furniture should be easy-to-clean, and should not conceal or retain dirt and moisture. Toys, books, newspapers, and magazines should be removed from waiting areas. Isolation room cleaning should be completed as per droplet and contact precautions protocols.

13.5 Supplemental Guidance for Hospitals

13.5.1 Patient Placement, Segregation and Cohorting

Key points

- In all health care settings, patients with symptoms of pandemic influenza should be segregated/isolated from non-influenza patients as rapidly as possible. The segregation of symptomatic patients is important in the containment of pandemic influenza.
- During seasonal influenza outbreaks, staff are deployed to designated areas; however, during a pandemic this may not be an effective measure as all staff will be exposed to the virus in the community.
- Patients with pandemic influenza should be managed separately until isolation is discontinued (i.e. five days after the onset of illness).

13.5.1.1 Selection of Segregated Areas for Cohorting Patients

Cohorting: Implement planned isolation or cohorting of patients in waiting areas and within wards. As the pandemic progresses, it may not be possible to accommodate ILI patients in single rooms.

Staff: During seasonal influenza outbreaks, staff are deployed to designated areas; however, during a pandemic, this may not be an effective measure as all staff will be exposed to the virus in the community.

To achieve the desired goal of separating patients with pandemic influenza from those without, a designated self-contained area/wing/ward of the hospital should be used for the treatment and care of patients with pandemic influenza whenever possible. Ideally, this area should:

- Include a reception area separate from the rest of the hospital (or at least from major points of traffic/congestion).
- If feasible, have a separate entrance/exit from the rest of the hospital.
- Not be used as a thoroughfare by other patients, visitors or staff. This includes patient transfers, staff going for meal breaks, and staff and visitors entering and exiting the building.

To control entry, signage must be displayed warning of the isolated/segregated patients.

While there is no specific concern for long-range airborne transmission of pandemic influenza, when selecting possible areas to segregate patients, the local hospital engineering department should be consulted regarding design considerations and to also ensure that mechanical ventilation systems do not dilute from cohorted to non-cohorted areas. At a minimum, doors should be closed between the two areas.

13.5.1.2 *Unit level*

Isolation or cohorting of patients should be carried out from the outset of the pandemic to help contain influenza and reduce the risk to other patients. If available, single rooms in non-influenza areas should be reserved for patients requiring isolation for other (i.e. non-influenza) reasons; single rooms in influenza-segregated areas should be reserved for performing aerosol-generating procedures whenever possible.

Cohorting: Implement planned isolation or cohorting of patients within wards. As the pandemic progresses, it may not be possible to accommodate ILI patients in single rooms.

Consideration should be given to separately cohorting patients infected with pandemic influenza and another pathogen (e.g. MRSA) to minimize hospital transmission of other infectious pathogens. This will be dependent on availability of rooms and staff, and the number of patients requiring isolation who are infected with both influenza and another pathogen.

Patients should remain in the designated segregated area until isolation is discontinued (typically five days after onset of symptoms).

13.5.1.3 *Infection Control Measures for Segregation and Cohorted Care*

- Entry procedures: The number of personnel should be limited to those necessary for patient care and support. Place a sign at the entrance alerting all to the precautions to be adopted.
- Infection control practices: Routine practices must be strictly applied in conjunction with droplet/contact precautions for all persons entering isolation areas.
- Isolation rooms: For all rooms, an equipment station should be set up outside the door to hold staff PPE supplies.

- **Patient area:** In accordance with droplet and contact precautions, the distance between beds should be more than 1 metre. Beds should be separated, preferably by a physical barrier (e.g. curtain). Patients' personal belongings should be kept to a minimum. A water jug and glass, tissue wipes, and suitable disposable containers (e.g. plastic bags), and all other items necessary for personal hygiene should be provided within the patients' reach.
- **Patient equipment:** Where feasible, allocate each patient their own non-critical items of patient equipment (e.g. stethoscope, thermometer) or use disposable items. Clean re-usable equipment between patients with a hospital-grade disinfectant.
- **Day rooms/lounges:** Consider closing day rooms/lounges if there is a risk that these might be used by both influenza and non-influenza patients, or if the location of these rooms presents a problem for limiting patient movements.
- **Cleaning:** Areas should be cleaned according to facility protocol for droplet and contact precautions. Close liaison with housekeeping services will be required.

13.5.2 Patient Transfer/Transport/Hospital Day Care Procedures/Hospital Transfers

13.5.2.1 Hospital Transfers

Patients must not be automatically admitted to hospital if they have an acute case of pandemic influenza (less severe cases of pandemic influenza will likely be addressed in influenza assessment centres in the community and/or at home via self-care). However, it can be anticipated that some patients who are initially managed in the community will require hospital admission. Some patients may require transfer for specialist care arising out of complications or concurrent medical events (e.g. cardiac angioplasty, renal dialysis). If transfer is essential, the receiving hospital and EMS staff must be advised in advance. Patients with influenza should not be admitted or transferred to specialist units for vulnerable patients (e.g. transplant units), for if influenza were to be introduced, mortality would likely be very high.

13.5.2.2 Intra-hospital transfers

Patients with pandemic influenza should leave isolation rooms/wards for only urgent and essential procedures. If a patient requires transfer to another department, the following procedures must be followed:

- The department in question must be informed in advance.
- The patient must be taken straight to and return from the department, and must not wait in a communal area.
- Patients should be placed at the end of the appointment list to allow appropriate decontamination after any procedure, according to facility protocol for droplet and contact precautions.
- In some settings (e.g. radiology departments), a separate room should be set aside for patients with influenza; this room should be cleaned regularly.
- Influenza patients should wear a surgical mask while in transit to help prevent large droplets being expelled into the environment. If a surgical mask cannot be tolerated (e.g. due to the patient's age or deteriorating respiratory status), apply the most practical measures (e.g. tissues) to contain respiratory secretions. If the patient cannot wear a

mask, the transport team must mask and attempt to keep others 1 metre away from the patient. Where possible, the patient should also perform hand hygiene before leaving their room or cohorted area.

- If possible, allocate dedicated equipment, such as X-ray equipment and ECG recorders, to the segregated area so that all procedures and investigations can be carried out in the area.

13.5.2.3 *Hospital Day Care Procedures*

For patients who develop influenza and have chronic conditions that require attendance at hospital regularly for day care procedures, options may include:

- Deferring the procedure and re-scheduling the next appointment.
- Transfer to a designated hospital with isolation or cohorted facilities.
- Introduction of barriers in special units to separate patients with symptoms of pandemic influenza.

It must be considered, however, that during the peak periods of a pandemic, such healthcare services may be deferred and/or relegated to home care resources, if available.

13.5.3 ***Special Settings: Emergency Departments***

During the pandemic, it will be the goal of regional plans to educate the public regarding the need to seek initial assessment and care for a suspected case of pandemic influenza away from hospital emergency departments (i.e. via Flu Centres, self-assessment services). However, during the peak periods of a pandemic, hospital departments will likely be overwhelmed with patients seeking care. In the event that masses of suspected cases of pandemic influenza attempt to seek care at acute care facilities and their emergency departments, alternative approaches to triage and initial assessment will be required to:

- Rapidly screen and identify persons who have symptoms of pandemic influenza upon their arrival.
- Separate symptomatic patients from others to reduce the risk of disease transmission.
- Determine as early as possible the type of care patients will require (i.e. “see and discharge” or admit for treatment).

13.5.3.1 *Screening and Triage*

- Signage should be displayed prior to and on entry to the Emergency Department instructing patients with respiratory symptoms to inform the reception immediately on their arrival.
- Surgical masks should be available at entry with instructions to symptomatic patients (febrile respiratory illness) to don a mask.
- A triage practitioner should be based in the reception for managing patient flow, including deferral of patients who do not require emergency care.
- Patients calling for medical appointments for pandemic influenza should be discouraged from making unnecessary visits to clinical facilities. Screening for signs and symptoms of pandemic influenza in all persons entering the hospital may escalate from passive (e.g. signs at the entrance) to active (e.g. direct questioning).

13.5.3.2 *Reception Area/Layout*

- Patients with symptoms of pandemic influenza should be triaged to a segregated waiting and assessment area immediately. Patients should be instructed to stay in this waiting area and not wander around the department, hospital, or go to the public cafeteria.
- Patients will be requested to wear a surgical mask (if able).
- Signage and physical barriers should be used as appropriate.
- If separate areas for patients with symptoms of pandemic influenza cannot be established, at a minimum, an alternate site should be set up for those at highest risk of complications from influenza infection (e.g. outpatients presenting for dialysis, patients with a history of organ transplantation, chemotherapy, or who are immunocompromised for other reasons).
- Patients who do not have symptoms of pandemic influenza but require acute care assessment promptly should be triaged to a specific waiting and examining area, physically separate from the influenza waiting and assessment area.
- Attention to respiratory hygiene should be reinforced by displays of posters and provision of hand hygiene facilities, tissues, and waste bins.
- All non-essential soft furnishings and items such as books, magazines and toys should be removed.

13.5.3.3 *Infection Control Measures for Waiting Rooms*

Patients, staff, and visitors should be encouraged to minimize potential transmission of influenza through standard hand hygiene and respiratory etiquette procedures:

- Patient masking: As waiting rooms can become crowded, it is preferable that symptomatic persons wear surgical masks and maintain a distance of one metre from others. This will assist with the containment of respiratory secretions and minimize environmental contamination.
- Cleaning: Hand contact surfaces must be cleaned at regular intervals while room is in use.

13.5.4 **Special Settings: Children**

Children's units present special challenges due to the difficulties experienced with younger children adhering to respiratory hygiene. In addition, children usually shed virus longer than most adults and in some settings shedding may be prolonged for weeks.

13.5.4.1 *Patient placement*

The following points need to be taken into consideration when cohorting children:

- Different age groups (e.g. infants, toddlers, adolescents);
- Routine childhood vaccination status of children;
- Presence of immunocompromising conditions; and,
- Co-infection with another pathogen (e.g. RSV); such children may be cohorted separately. However, this will be dependent upon the availability of rooms, staff, and the number of patients who are infected with both influenza and another pathogen requiring isolation.

13.5.4.2 *Respiratory Hygiene*

It is important to educate and encourage children and their families to adopt good respiratory hygiene measures to minimize potential transmission including use of disposable tissues for wiping noses; covering nose and mouth when sneezing and coughing; hand hygiene after coughing, sneezing or using tissues; and keeping hands away from the mucous membranes of the eyes and mouth.

13.5.4.3 *Personal Protective Equipment (PPE)*

Staff are required to follow guidelines for droplet and contact precautions — refer to Table 10.

Instructions for parents: droplet and contact precautions. In addition to standard precautions, parents are required to wear a surgical/procedure mask when influenza is suspected or known. When leaving the room, parents must:

- Sanitize their hands;
- Remove the mask; and,
- Sanitize hands once more just prior to leaving the isolation room.

13.5.4.4 *Environmental Issues*

Communal areas such as play rooms and schoolrooms should be closed. Toys should not be shared. All toys must be cleanable and should be cleaned regularly and on patient discharge (preferably when the environment is cleaned). Cleaning of the environment should be increased.

13.5.5 *Special Settings: Intensive Care Units*

13.5.5.1 *Unit Layout/Patient Placement*

If the unit does not have single rooms, the main unit should be divided into two separate areas for care of patients with and without pandemic influenza. Whenever possible, staff teams should be dedicated to one area if possible

13.5.5.2 *Respiratory Care Issues*

Respiratory equipment:

- Disposable patient respiratory equipment must be used wherever possible. Reusable equipment must be disinfected in accordance with local policy and manufacturers guidelines.
- Closed systems should be used wherever possible (e.g. suction, closed nebulizer delivery).
- All respiratory equipment used on patients must be protected with a filter.
- The ventilatory circuit should not be broken unless absolutely necessary.
- The use of open non-invasive positive pressure ventilation equipment should be avoided.
- Water humidification should be avoided.

13.5.5.3 *Respiratory Procedures*

- Only essential staff should be in a patient's room when airway management, cough inducing activities or nebulization of drugs is being carried out.
- PPE must be worn when giving care, especially during procedures involving airway management (See Table 10).

13.5.6 ***Special settings: The Dying/Deceased Patient***

13.5.6.1 *Ministers of Religion*

Ministers of religion should be instructed to wear PPE as per routine practices and droplet and contact precautions.

13.5.6.2 *After Body Care*

Attention to routine practices is sufficient for handling bodies of individuals who have died from pandemic influenza. There is no additional risk of transmission of influenza infection.

Surgical masks/eye protection/face shields should be considered if there is a risk of splashes of blood and body fluids, secretions and/or excretions onto the facial mucosa.

The body should be fully wrapped in a sheet. Transfer to the mortuary should occur as soon as possible after death. If the family wishes to view the body, they may be allowed to do so and instructed to perform hand hygiene after contact with the body.

13.5.6.3 *Post-Mortem Examinations*

During a pandemic, questions may arise about the need for post-mortem examinations. Where clinically indicated, such exams will yield vital clinico-pathological information which may be of vital importance in refining recommendations related to prevention and treatment of infection. Autopsies should be performed using the following PPE:

- When moving the body of the deceased, a surgical mask should be placed over the patient's nose and mouth to prevent inhalation of residual air that may be expelled from the lungs when the body is moved.
- Provided the healthcare worker is not transporting the body, routine practices are sufficient for contact with the deceased. Therefore, gloves and gowns are not necessary unless contact with respiratory secretions or other body fluids is anticipated. Surgical masks are not necessary although may be used to prevent the healthcare worker from touching his/her mouth/nose and to protect against contact with droplets that may occur if fluids are splashed.

13.5.6.4 *Mortuary and Funeral Staff*

The mortuary staff or funeral director should be informed that the deceased had pandemic influenza. Routine practices should be followed; there is no further risk of droplet spread.

13.5.7 Special Settings: Visitors

During a pandemic, visitors to all areas of the hospital should be kept to a minimum. On arrival to influenza segregated units, all visitors should report to the unit reception. Signage should be displayed informing visitors of the unit's current segregated status and procedures that need to be undertaken prior to entering the unit (e.g. hand hygiene, PPE).

Visitors entering a cohorted area must be instructed on hand hygiene practice and the use of PPE.

13.6 Supplemental Guidance for Primary and Alternative Care Settings

13.6.1 Patient Placement, Segregation, and Cohorting

KEY POINTS

- If possible in all community healthcare settings, patients with pandemic influenza should be kept separate from non-influenza patients.
- This requires careful consideration and flexibility in accommodation and staffing arrangements.

To achieve the desired goal of separating patients with influenza from those without across healthcare facilities/locations in the community (e.g. physicians' offices, Flu Centres), a designated self-contained area within each premise should be used for the treatment and care of patients with pandemic influenza whenever possible. *Ideally*, this area should:

- Be fully self-contained;
- Include reception and waiting areas separated from non-influenza patients;
- Have a separate entrance/exit door; and,
- Not be used as a thoroughfare by other patients, visitors or staff. This includes patient transfers, and staff and visitors entering and exiting the building.

To control entry, signage should be displayed warning of the segregated pandemic area.

While such arrangements may not be possible in some premises, innovative solutions should be sought which incorporate the above principles.

Once a pandemic is established, segregation principles should be applied to address the dual aims of handling a large number of patients with influenza while also minimizing transmission to others.

13.6.2 Patient Transfer/Transport/Hospital Day Care Procedures

See section 13.5.2.

13.6.3 Special settings: General Practices

Procedures for converting the office to a pandemic configuration and for making appointments should be established/reviewed. All non-essential clinics should be cancelled.

13.6.3.1 Reception Layout

If possible, separate waiting areas for influenza and non-influenza patients should be created. Patients with symptoms of pandemic influenza should be requested to wear a surgical mask (if able) to contain respiratory droplets. Display clear signage at office entrances and in clinical rooms indicating influenza/non-influenza areas.

13.6.3.2 Work Flow

Where practical, a work flow should be developed so that physicians, nurses and other health care workers are designated to care for either influenza or non-influenza patients and that 'mixed care' is avoided. A possible alternative is to (when feasible) schedule non-influenza patients in the morning and influenza patients in the afternoon. Patients with symptoms of pandemic influenza who are not seriously ill should be encouraged to telephone for advice and consultation to minimize crowding in reception areas.

Environmental cleaning should be carried out, prior to using the same facilities for non-influenza cases. Waiting areas and examination rooms should be cleaned once daily as a minimum.

Offices should also track and document staff illness and absence due to infection with ILI, and ensure staff remain at home while infectious.

13.6.3.3 Facilities and Personal Protective Equipment

Ensure that hand hygiene facilities (e.g. sinks, soap, hand sanitizers, paper towels) are available for staff and patient use. Waste bins for tissues should be made available in waiting areas, examination rooms and other key areas.

Staff should be familiar with routine practices and droplet and contact precautions. Ensure that personal protective equipment such as gloves, surgical masks and other items are readily available in the office and that staff have been trained in their proper use.

13.6.3.4 Environmental Infection Control

Refer to Section 13.4.

13.6.4 Special Settings: Influenza Assessment, Treatment, and Referral Centres (Flu Centres)

During the influenza pandemic, adherence to strict infection control practices will be key to prevent/minimize transmission of influenza at a Flu Centre. Staff of Flu Centres should refer to the content of this document for recommendations related to infection control.

13.6.4.1 *Facilities*

Staff, patients and visitors should have quick and easy access to hygiene supplies (e.g. liquid pump soap, alcohol-based hand rub, single use paper towels, tissues, etc). There should be multiple hand hygiene stations in the Flu Centre at accessible locations. Guidelines/signage should be posted in key areas advising on hand hygiene and cough/respiratory etiquette.

13.6.4.2 *Environmental Infection Control*

See section 13.4

13.6.4.3 *Personal Protective Equipment*

Staff at Flu Centres should be familiar with routine practices and droplet and contact precautions. Ensure that personal protective equipment such as gloves, surgical masks, gowns, eye protection and other key items are readily available and that staff have been trained in their proper use.

13.6.4.4 *Staff Illness*

Track and document staff illness and absence due to infection with ILI and ensure staff remain at home while infectious.

13.6.4.5 *Further Information*

Refer to the OHPIP, Chapter 11, for further information and guidance.

13.6.5 *Special Settings: Long-Term Care Homes*

Refer to *A Guide to Influenza Pandemic Preparedness and Response in Long-Term Care Homes* for detailed information which, can be accessed at:

http://www.regional.niagara.on.ca/living/health_wellness/pandemic-planning/pdf/Guide_to_Influenza_Pandemic_Preparedness_and_Response-Long_Term_Care_Homes.pdf

13.6.6 *Special settings: Community Settings including CCAC/Home Care Providers, Family Health Teams, Physician Practices, other primary health care providers, and agencies, community support services, community mental health centres, and other community-based health services.*

During a pandemic, there will be intense pressure on community health services. Although people will be directed to contact Telehealth or to go to a community assessment centre, many will still rely on their family physician for information and care. Approximately 53% of the people who develop pandemic influenza will require an outpatient visit. Home care will also be asked to provide additional services to reduce the pressure on hospitals and increase their capacity to care for those who become critically ill. Over this same period, community health care providers will be expected to maintain key services for existing clients.

Objectives:

- To maintain key primary and community care services during a pandemic.

- To support people with influenza who can be cared for at home.
- To identify community health services that can be reduced or curtailed in the event of an influenza pandemic.

13.6.6.1 *Supplies and Equipment*

Supplies and equipment required for an influenza pandemic are an issue for many primary care practitioners in terms of cost.

Smaller services/agencies also have less capacity to source supplies in an emergency.

To ensure that primary care providers have the supplies required to protect staff and patients, the Ministry of Health and Long-Term Care has supplied all primary care practices and community health centres with an emergency infection control kit that includes a supply of:

- Hand sanitizer
- Masks
- Gloves
- Eye protection
- Disposable gowns
- Surface cleaner
- Disinfectant wipes
- Information sheets that can be posted in the office or clinic.

For recommendations pertaining to the procurement, distribution and stockpiling of equipment and supplies refer to Chapter 12.

13.6.6.2 *Cohorting*

Site leaders should adjust physical settings as much as possible to separate patients with ILI from those who are well by minimizing time spent in waiting areas, providing separate waiting areas, directly isolating patients with influenza-like illness, or creating separate areas within your waiting area that allow at least one meter of space between those with and without ILI.

Staff: During seasonal influenza outbreaks, staff are deployed to designated areas, however, during a pandemic this may not be an effective measure as all staff will be exposed to the virus in the community.

Home settings: Audit environments of current patients to develop appropriate strategies.

13.6.6.3 *Environmental Cleaning and Disinfection Standards*

- Pandemic treatment areas should be cleaned daily, and as a minimum, after patient discharge and between patients. Cleaning schedules may vary by setting.
- A hospital-grade disinfectant should be used in isolation rooms with special attention to horizontal surfaces and “high touch” areas, especially after respiratory procedures that generate aerosols. The area surrounding the patient (one metre) should be decontaminated.
- Damp, rather than dry, dusting should be performed to avoid generating dust particles.
- Dedicated or single-use disposable equipment should be used.

13.6.6.4 *Continuity of Operations*

To help physician practices and community agencies plan for a pandemic, Ontario has developed a pandemic preparedness checklist (see section 16A: Community Health Services Tools):

http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/ohpip2/plan_full.pdf

13.6.7 *Special settings: Emergency Response Services*

During the influenza pandemic, adherence to strict infection prevention and control practices will be key to preventing/minimizing transmission of influenza during assessment and/or transport via ambulance services. Emergency responders should refer to the content of this chapter for recommendations related to infection control (refer to Appendix 23, p. 264 for the proposed EMS patient triage system).

Routine infection control practices for emergency responders in Waterloo Region will be as follows during an influenza pandemic (pending any formal changes at the provincial level):

13.6.7.1 *Supplies and Equipment*

Hand hygiene/Hand Antisepsis:

Hands must be washed:

- After any direct contact with a patient and before contact with the next patient.
- After contact with body fluids, secretions and excretions.
- After contact with items known or considered likely to be contaminated with respiratory secretions (e.g. oxygen tubing, masks, used tissues)
- Immediately after removing gloves.
- Immediately after completing patient care.

Soap and water may be used for routine hand hygiene. Waterless hand disinfectant must be available as an alternative to hand hygiene. However, when there is visible soiling, hands must be washed with soap and water whenever possible before using waterless hand disinfectant.

Gloves:

- Gloves must be worn as an additional measure, not as a substitute for hand hygiene.
- Clean, non-sterile gloves must be worn by emergency responders for all patient contacts in which there is a risk of infectious disease exposure or contamination from body fluids.
- Gloves must be put on prior to contact with the patient.
- Gloves must be changed when circumstances permit after a procedure where there is contamination with blood or body substances.
- Gloves must not be worn in the driver compartment of an emergency response vehicle.
- Hands must be disinfected by hand hygiene or waterless hand disinfectant after gloves are removed.
- Gloves must not be reused or used for more than single patient care.

Surgical Masks:

- Where possible, surgical masks must be worn by any patient who has **respiratory symptoms** (refer to Appendix 23, p. 264) suggestive of infection. Oxygen may be administered by nasal cannula under a surgical mask.
- For the patient who has respiratory symptoms suggestive of infection and requires high concentration oxygen therapy, a low flow high oxygen concentration mask outfitted with a hydrophobic submicron filter on the exhalation port must be used.

N95 Masks (or equivalent):

- Emergency responders must wear an N95 or equivalent mask when encountering any patient with fever **or** respiratory symptoms.
- Emergency responders must wear an N95 or equivalent mask when administering nebulized or aerosolized therapy.

Protective Eyewear (safety glasses or goggles):

- Protective eyewear must be worn by emergency responders for all patients who require airway management and for any patient where there is a significant risk of being splashed by body fluids [e.g. vomiting, uncontrolled hemorrhage, excessive coughing].
- Eye protection must be worn when encountering ANY patient with respiratory symptoms suggestive of infection.
- Eye protection must be worn when administering nebulized or aerosolized therapy.
- If an emergency responder wears eyeglasses, protective eyewear designed for use over eyeglasses must be worn.
- After caring for the patient, emergency responders must disinfect protective eyewear with a hospital grade disinfectant at the health care facility.

Face Shields:

- Face shields must be worn for all patients who require airway management [e.g. oral/nasal airways, suctioning, positive pressure ventilation, intubation or surgical airway]; and for any patient where there is a significant risk of being splashed by body fluids [e.g. vomiting, uncontrolled haemorrhage, excessive coughing].

Gowns/Coveralls:

- A long-sleeved gown/coveralls sufficient to cover the front and back of the paramedic is mandatory when caring for a patient with fever **or** respiratory symptoms.
- A long-sleeved gown/coveralls must be worn for any patient where there is a significant risk of being splashed by body fluids [e.g. vomiting, uncontrolled haemorrhage, excessive coughing].

Head Cover:

- An open face hood is mandatory when caring for a patient with fever **or** respiratory symptoms.
- An open face hood must be worn for any patient where there is a significant risk of being splashed by body fluids [e.g. vomiting, uncontrolled haemorrhage, coughing].

Shoes:

- Shoes must be wiped down with a hospital grade disinfectant if they may have been soiled with body fluids or substances.

Environmental Infection Control

See section 13.4.

13.6.8 Special settings: Allied Health Professionals

It may be necessary to cancel non-essential clinics/appointments. Allied Health Professionals performing non-deferrable essential visits to households with influenza should follow the infection control precautions detailed in this chapter.

13.6.9 Special Settings: Dentists

It may be prudent to cancel routine dental visits during the pandemic period. At a minimum, dental practices should put in place active screening of all patients for symptoms of influenza prior to entering the clinical area. Patients with symptoms of pandemic influenza should not be seen at all, unless a dental emergency is suspected. Such patients should be treated at the end of the day when all other patients have left. Staff in attendance should be kept to a minimum and all should wear PPE in accordance with high risk procedures (see Table 10).

13.6.10 Special Settings: Dying/Deceased Patients in the Community

See section 13.5.6

13.6.11 Special settings: Responding to Patient Calls; Patient Dwellings

Home visits and/or responders arriving on-site to calls involving suspected pandemic influenza cases/patients should follow the PPE requirements listed in 13.6.7 – Special settings: Emergency Response Services.

13.7 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding infection prevention and control include:

- Monitor and review future research as well as directives and tools provided in the Canadian Pandemic Influenza Plan and Ontario Health Plan for an Influenza Pandemic.
- Revise Waterloo Region's pandemic-specific infection prevention and control guidelines as information and updates become available. Ensure compliance with provincial directives. Further develop infection prevention and control guidelines for Influenza Assessment, Treatment and Referral Centres (Flu Centres).

- Following from the guidelines in this chapter, each health care organization is to develop education and awareness training programs for the health care workers in their respective institutions.

13.8 References and Supporting Documentation

General References:

Government of Canada. Canadian Pandemic Influenza Plan. Public Health Agency of Canada. February 2004.

Government of Canada. Hand Washing, Cleaning, Disinfection, and Sterilization in Health Care. Public Health Agency of Canada. 1998.

Government of Canada. Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care. Public Health Agency of Canada. 1999.

Government of Ontario. A Guide to Influenza Pandemic Preparedness and Response in Long-Term Care Homes. Ministry of Health and Long-Term Care. 2005.

Government of Ontario. "Chapter 7a: Tools – Infection Prevention and Control and Occupational Health and Safety," Ontario Health Plan for an Influenza Pandemic. September 2006, 7A-1 to 7A-20.

Government of Ontario. Preventing Febrile Respiratory Illnesses: Protecting Patients and Staff. Provincial Infectious Diseases Advisory Committee. Revised August 2006.

Government of the United Kingdom. Guidelines for Pandemic Influenza: Infection Control in Hospitals and Primary Care Settings. Department of Health, England. Health Protection Agency. 19 October 2005.

Royal College of General Practitioners (UK). Pandemic Flu: Interim Guidance – Infection Control for General Medical Practices. 22 May 2006.

World Health Organization. Avian Influenza including Influenza A (H5N1) in Humans: WHO Interim Infection Control Guideline for Healthcare Facilities. 9 February 2006.

Supporting Visual Aides and Awareness Materials:

Government of Ontario. Donning and Removal of Personal Protective Equipment. Ministry of Health and Long-Term Care. Available online from:
http://www.health.gov.on.ca/english/providers/program/emu/emerg_kit/pdf/kit_donning.pdf.

United States Government. Personal Protective Equipment (PPE) in Healthcare Settings. Centers for Disease Control and Prevention, Department of Health and Human Services. Available online from: <http://www.cdc.gov/ncidod/dhqp/ppe.html>. 1 October 2005.

14 HEALTH HUMAN RESOURCES PLANNING

An influenza pandemic will have an adverse impact on human resources in health care settings. In general, the health care system will be required to operate beyond its normal capacity in order to cope with the influx of influenza patients, and to maintain some level of operation of essential services and critical functions.

In order to be prepared for a pandemic, health care organizations must have service (business) continuity plans to effectively manage the impacts of a pandemic such as staffing shortages, disruptions to supply chains, absenteeism, and continuity of key critical services. In addition, organizations, particularly those in the health care sector, must devise pandemic-specific human resource policies and guidelines to protect the health and safety of workers, and to better manage scarce resources.

It is important that development of these plans and policies are completed, and communicated to staff, before a pandemic occurs. This chapter identifies relevant health human resources issues that planners should consider when creating their pandemic-specific human resources plan. It highlights general planning considerations (for the health care sector) and identifies topics pertinent to health human resources. The chapter also highlights specific resources (planning tools) that can be used to assist human resource professionals as they complete their plans, and presents “fit for work” program recommendations.

While the chapter is specific to health human resources, many of the concepts may be adapted for other sectors.

14.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles, several planning considerations specific to health human resources were developed. These outline key concepts human resources officials at health care organizations should follow during a pandemic event. These will ensure the goals and guiding principles of the overall CPIPP are upheld.

These planning considerations include:

- Prompt recognition of healthcare workers with influenza is essential to limit the spread of the pandemic in a healthcare setting.
- Healthcare workers with pandemic influenza should be excluded from work although exceptions may be necessary (e.g. work in a “pandemic ward”).
- If feasible, healthcare workers who care for pandemic influenza patient areas should not care for other patients; however, exceptions may be necessary (due to high rates of staff absenteeism).
- Healthcare workers at high-risk for complications from pandemic influenza should not provide direct patient care.
- With the influx of new patients ill with influenza, in addition to the regular work demands,

adequate staffing will not be available, and decisions will have to be made regarding work priorities.

- General healthcare staff (e.g. administration, contractors) should follow the same deployment and safety procedures as primary healthcare workers.

14.2 Health Human Resource Issues

As presented in the planning assumptions (refer to Section 3.2), the impact of a pandemic on health services will be overwhelming as a result of:

- Increased number of patients with influenza and its complications;
- Increased needs for high dependency care;
- Increased demands placed on health care workers (HCWs);
- Increased absentee rates for health care workers due to illness in themselves or family members;
- A secondary burden on personal health caused by anxiety and bereavement; and,
- Logistical problems due to interruption of supplies, utilities, and transport as part of the general disruption caused by the pandemic.

With potential employee absentee rates (potentially) reaching 35%, and demand for services soaring, health care sector organizations will need to alter their operations to mitigate the effect on the level of care provided. Specifically, pandemic-specific human resource plans will be required to effectively manage these staffing shortages and the resulting issues that will arise. While each organization, and the services they will provide, is different the issues that need to be addressed are primarily the same. These include:

- Organization Resiliency – Coping Mechanisms and Employee Assistance Programs
- Labour Relations — Union Considerations
- The role of Joint Health & Safety Committee (JHSC) and Occupational Health & Safety Requirements
- Compensation/Benefit Issues
- Budget Tracking – Special Codes & Cost Centres
- Vaccine Compliance
- Staff Identification (for security purposes, etc.)
- Human Resources Policy and Legislative Issues
- Recruitment
- Child Care/Elder Care Issues for Staff
- Use of Volunteers in Health Care Settings

As part of the planning process, the CPIPP Occupational Health & Safety and Human Resources Working Group developed a **draft** “tool kit” to assist health human resources professionals as they complete their pandemic-specific plans. In the draft “tool kit,” the aforementioned issues are highlighted along with several points for consideration. These issues are followed by a checklist of items or tasks that planners should consider or complete when drafting their plan. For ease of reference, these checklists are divided into two categories: before and during an influenza pandemic event. The draft “tool kit” will be forwarded to network of human resource officials that is established during the next planning phase, and subsequently shared with the appropriate union representatives.

14.3 Redeployment Considerations

Redeployment will be the core component of any pandemic-specific service (business) continuity and human resources plan. During a pandemic, healthcare organizations will be expected to manage what scarce resources are available by reallocating staff accordingly.

When developing redeployment plans, officials should also consider alternative work strategies such as telecommuting and determining what work could be carried out via phone rather than in-person or on-site. Novel strategies will be required to ensure critical functions are maintained.

Where feasible, healthcare workers assigned to care for patients with pandemic influenza, or who work in areas of a facility/institution segregated for patients with pandemic influenza, should not be assigned to care for non-influenza patients or work in non-influenza areas.

Exceptions to this include:

- In hospitals, occupations with a limited number of staff (e.g. medical staff, specialists), although segregation of staff should be maintained as much as practically possible.
- Situations when the care and management of the patient would be compromised.
- Staff who have fully recovered from the pandemic influenza virus.

In some primary care work settings this may not be feasible. Nevertheless, consideration should be given to developing approaches comparable to hospital settings; for example, one General Practitioner or nurse can be designated to see all the patients with symptoms of influenza on the morning list.

In hospitals, a healthcare worker from a non-influenza area can be redeployed to an area segregated for the care of influenza patients. However, once deployed to such an area as a “pandemic ward,” this healthcare worker should not return to their original non-influenza area for the duration of the pandemic (if feasible).

Healthcare workers who have recovered from the pandemic influenza virus, or have received a full course of vaccination against the pandemic strain and therefore considered unlikely to develop or transmit influenza (not likely during the first stages of a pandemic) should be prioritized for the care of patients with pandemic influenza. In exceptional circumstances, these workers can be moved within a period of duty, but this is not desirable. These workers may also be placed in units where the introduction of influenza would have serious consequences for patients (e.g. transplant units, special care baby units, and renal units in community hospitals). These workers should not be moved within a period of duty.

14.3.1 Intra-Organization Redeployment

It is recommended that each organization establish a formal pandemic-specific human resources plan and Redeployment Centre. Comprised of the necessary human resource professionals, the Redeployment Centre would be a central coordination point where decisions regarding redeployment and staffing allocations would be made.

Issues:

- Ensure staff working in Redeployment Centre understand the talent available and job requirements.

- Ensure names and skills of all appropriate staff are available to the Redeployment Centre.
- Capture costs associated with redeployment. Having the timesheet processes in place to effectively pay staff not working in their usual department.
- Ensure all redeployed staff receives orientation/training to new area and support so they can provide safe, quality services.

Once intra-organizational redeployment strategies and HHR plans have been developed, it is recommended that HHR leaders from the major stakeholder groups meet to discuss ensuing inter-organizational redeployment strategies (refer to 14.3.2).

To assist health human resource planners the Ministry of Health and Long-Term Care completed a health human resources chapter in the 2006 iteration of the OHPIP. The chapter presents a competency-based approach to health human resources planning and provides a variety of tools that will assist organizations as they create their pandemic-specific plans. In sum, the competency-based approach focuses on skills, knowledge and judgment (or competencies required to complete a task) instead of professional qualifications. After examining and identifying the spectrum of competencies required to meet the needs of patients in health care settings, alternative staffing options can be considered. The following tools (available in the OHPIP) will assist planners in developing their redeployment plan:

- Influenza Care Competencies
- Key Questions for Planners to consider
- List of Controlled Acts (Regulated Health Professions Act)
- Influenza Care Competencies Self-Assessment: How Can I Assist in an Influenza Pandemic?
- RHPA Profession / Influenza Care Competencies Matching
- Sample Framework for Using Competency Assessments to Plan Team-based Care for People with Influenza

The tools can be downloaded at

http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html

The pandemic-specific volunteer strategy for Waterloo Region is presented in Chapter 10, Section 10.5.3. Volunteer screening and intake will be completed at three area municipalities while coordination will be managed by the Volunteer Action Centre of Kitchener-Waterloo and Region of Waterloo (Volunteer Services). Operational details related to the volunteer management strategy will be worked out during the next planning phase; health care representatives will be involved in this planning effort.

For health care organizations that wish to recruit their own volunteers the OHPIP contains a variety of tools to assist in this effort. These include:

- Volunteer Position Description Template
- Sample Request for Volunteers
- Sample Volunteer Application Form

The tools can be downloaded at

http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_plan.html

14.3.2 Inter-Organization Redeployment

Inter-organization redeployment would involve the sharing or transfer of employees between organizations in Waterloo Region. Redeployment at this level would occur if:

- After intra-organizational redeployment plans were implemented, an organization had additional staff not allocated to their response and recovery efforts.
- As a sector, or community, organizational leaders met and defined collective priorities for the response and recovery efforts. After developing these priorities, all organizations would assign staff to these efforts, potentially to a community site (such as an Influenza Assessment, Treatment and Referral Centre [Flu Centre]) or to another organization if necessary.

There would be many challenges to inter-organization redeployment, including, but not limited to:

- Coordination issues;
- Payment and time-tracking issues;
- Liability concerns (including Workplace Safety and Insurance Board considerations); and,
- Impacts on collective agreements and provisions for redeployment

To address these challenges, it is recommended that a formal network of key human resource officials be established to discuss the possibility of instituting inter-organizational strategies during a pandemic. This network may also consider the need mutual assistance agreements, such as those used between Fire Departments which could be explored to facilitate redeployment. Ideally, this concept should be developed and deployed at the sector and/or community level in the pre-pandemic phase.

14.4 Fit for Work Program Recommendations

During an influenza pandemic, healthcare workers (HCWs) will be at risk of acquiring the virus through both community and healthcare-related exposures. As a result, staff should be aware of the symptoms of influenza-like-illness (ILI) or pandemic influenza to discern whether or not they are “fit for work” should they become ill. Before each work day all staff must complete a screening form and report any symptoms of ILI either to their department manager, human resources representative and/or occupational health and safety representative who will then advise accordingly.

Similarly, if a member of staff develops such symptoms while on duty, he/she must report to their department manager, human resources or occupational health & safety department, and immediately adopt the necessary infection control measures prior to being redeployed or sent home/receive treatment.

The healthcare facility's occupational health and safety department (or equivalent) should take a lead role regarding the implementation of systems to monitor for illness and absence, implement vaccination and antiviral therapy programs for the healthcare workforce (when available), and liaise with the site's infection control team to give general advice on the management of staff with pandemic influenza.

The general principles of the “fit for work” program during a pandemic are as follows:

- In most cases, all healthcare workers who have symptoms of pandemic influenza should

- be excluded from work to avoid infecting patients, colleagues, and others.
- However, in exceptional circumstances where staff shortages are extreme, department managers may allow healthcare workers who feel well enough to work but who are beginning to experience symptoms of pandemic influenza, or those who are recovering but have residual symptoms, to work in parts of the facility segregated for the care of influenza patients (i.e. “pandemic wards”). These HCWs must also avoid contact with non-influenza patients and staff who remain well.
- All healthcare workers who have recovered from pandemic influenza should report to their department manager (or designate) before resuming clinical duties. This group of healthcare workers can then care for people with the pandemic virus. Department managers (or designates), in turn, should ensure that sickness/absence is recorded and this information is sent to the OH&S lead (or designate) at the site.

Recommendations

The phrases “fit for work” and “unfit for work” are used by occupational health to communicate a worker’s ability to remain at or return to work depending upon their susceptibility to the pandemic influenza virus, immunization status (when available), and agreement to use antivirals (if available). **These guidelines may vary from organization to organization.**

(i) Fit for Work

(a) Well, unexposed HCWs will be fit for work with all patients.

(b) Additionally, HCWs are fit for work when one or more of the following conditions apply:

- They have recovered from the pandemic virus (see Assessment Tool) during earlier phases of the pandemic;
- They have been immunized against the pandemic strain of influenza in circulation; and/or,
- They are on an appropriate antiviral regime (when available and as per MOHLTC direction).

NOTE: Such HCWs (both sets [a] and [b]) may work with all patients and may be selected to work in units where there are patients who, if infected with influenza, would be at high risk for complications. All appropriate PPE and infection control precautions will be required in these circumstances.

(ii) Unfit for Work

Staff who feel that they are ill with the pandemic influenza virus (confirmed through the completion of the screening tool below) should be considered “unfit for work” and should not work. According to current knowledge (based on seasonal influenza), employees should remain off work for five days from the onset of illness.

However, in the event of extreme staffing shortages and depending upon the epidemiology of the virus, healthcare workers recovering from illness and exhibiting minimal symptoms may be allowed to return to work in designated “pandemic” areas. This decision will be left to individual department managers, human resource representatives, and/or occupational health and safety representatives.

High Risk Workers

Healthcare workers who are at high risk for complications of pandemic influenza be considered for alternate work assignments (which are away from direct patient care) for the duration of the pandemic (if feasible) or until they have been vaccinated. At the very least, these HCWs should not provide care to patients known to have pandemic influenza, nor enter parts of the hospital segregated for the treatment of patients with influenza.

General Issues:

- Medically at-risk employees may request to be redeployed to non-clinical areas or request to be sent home during a pandemic (should they not be vaccinated).
- Plans must be developed to manage staff with pre-existing illnesses that make them more susceptible to influenza and thus, leave them at a higher risk for illness/death.

Surveillance of Influenza-Like-Illness in Health Care Workers

According to Ontario's FRI guidelines, healthcare institutions need to have established procedures for notifying infection prevention and control of any patients or residents either admitted with or who develop febrile respiratory illness (FRI) and any clusters of FRI in staff or patients.

Further, healthcare workers that develop FRI symptoms should report their condition to their human resources or occupational health & safety (OHS) representative(s). Infection prevention and control will alert OHS about any FRI clusters in patients so OHS can monitor staff. OHS will inform infection prevention and control of any FRI clusters among staff.

In addition, if a healthcare worker develops an occupationally acquired disease, his or her employer must report the illness to the Ministry of Labour. The employer must also notify the Workplace Safety and Insurance Board (WSIB) within 72 hours.

Therefore, health care organizations must continue to track staff illness, particularly occupationally-acquired infections. Organizations must also use current mechanisms, or devise new mechanisms, to determine which employees are fit to work/unfit to work.

It should be noted, however, that these guidelines apply to cases of FRI, and they may be modified by the Ministry of Health and Long-Term Care during an influenza pandemic.

Generic Screening Tools for Determining Staff Fitness for Work during a Pandemic

The following are basic screening tools for healthcare workers to use when determining if they are fit for work. During a pandemic, it will be the responsibility of the HCW to self-screen and ensure that they are fit for work.

HCW SCREENER FORM

STEP 1: Have HCW complete fever test with fever strip.

STEP 2: Confirm presenting symptoms with screening tool below.

<p><u>Confirmation of Presenting Symptoms</u></p> <p>Fever > 38°C (100.4°F) Yes <input type="checkbox"/> No <input type="checkbox"/> Onset date and time: _____</p> <p>Cough Yes <input type="checkbox"/> No <input type="checkbox"/> Onset date and time: _____</p> <p><i>And one or more of the following symptoms:</i></p> <p>Sore Throat: Yes <input type="checkbox"/> No <input type="checkbox"/> Muscle Pain: Yes <input type="checkbox"/> No <input type="checkbox"/> Joint Pain: Yes <input type="checkbox"/> No <input type="checkbox"/> Shortness of breath: Yes <input type="checkbox"/> No <input type="checkbox"/> Other symptoms (list): _____</p> <p>Presence of influenza circulating in community? Yes <input type="checkbox"/> No <input type="checkbox"/></p>

- If an assessment confirms the healthcare worker meets the case definition and clinical criteria (documented fever > 38°C [100.4°F], cough and one or more of the following symptoms: acute onset of sore throat, muscle pain, shortness of breath, or presence of influenza circulating in the community), he/she should stay at home, contact their OH&S or department manager, and/or visit a Flu Centre for further assessment/treatment.*

STEP 3: Additional Screening Information for OH&S (or designate)

<p><u>Confirmation of High Risk Symptoms</u></p> <p>Chest Pain: Yes <input type="checkbox"/> No <input type="checkbox"/> Headache: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Decreased Fluid Intake: Yes <input type="checkbox"/> No <input type="checkbox"/> Severe Muscle Pain: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Vomiting: Yes <input type="checkbox"/> No <input type="checkbox"/> Purulent Sputum: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Decreased Urine Output (no urine output in 8 hrs): Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Onset of first symptoms: <u>HH:MM</u></p>

Disposition:

- Home & Self-Care
- Treatment

14.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding health human resources include:

- Develop and implement a strategy (e.g. forming a network of human resource representatives from all health care partners in Waterloo Region) to communicate the health human resources information contained in this plan.
- Finalize the draft “tool kit” that will assist health human resources professionals as they complete their pandemic-specific plans. Encourage organizations to adapt the “tool kit” as required so it meets the needs of their organization.
- Develop a strategy to engage union representatives into further developing and supporting the CIPP, particularly the human resources-related components.
- Assess the capacity to develop a human resource strategy for the health care sector, including inter-organizational redeployment strategies. Formalize the planning steps to complete this strategy (if possible).
- Participate in the planning efforts to develop a volunteer management strategy for Waterloo Region.

14.6 References and Supporting Documentation

Government of Ontario. “Chapter 8a: Tools – Optimizing Deployment of the Health Workforce,” Ontario Health Plan for an Influenza Pandemic. Ministry of Health and Long-Term Care. September 2006, 8A-1 to 8A-23.

Government of Ontario. Febrile Respiratory Screening Tool. Ministry of Health and Long-Term Care. August 2006.

Toronto Academic Health Services Network. “Chapter 6: Human Resources,” Pandemic Influenza Planning Guidelines. May 2006, 6-1 to 6-17.

15 PSYCHOSOCIAL SUPPORTS FOR HEALTHCARE WORKERS

The response to an influenza pandemic will pose substantial physical, social, and emotional challenges to healthcare providers, public health officials, and other essential service workers. Experience suggests that enhanced workforce support activities can help responders during emergencies.

During an influenza pandemic, however, the occupational stresses experienced by healthcare providers and other responders are likely to differ from those faced by relief workers in the aftermath of a natural disaster. Globally and nationally, a pandemic could last between 12 to 18 months, while a pandemic wave in local communities may last upwards of six to eight weeks. Medical and public health responders and their families will be at personal risk for as long as the pandemic virus continues to circulate in their community. Special planning is therefore needed to ensure that hospitals, public health agencies, first-responder organizations, and employers of essential service workers are prepared to help employees maximize personal resilience and professional performance. An essential part of this planning effort involves the creation of alliances with community-based organizations and nongovernmental organizations with expertise in and resources for psychosocial support services or training.

This chapter identifies relevant psychosocial support issues that human resources and business continuity planners should consider when creating pandemic-specific support mechanisms for staff. This chapter provides a general overview of what psychosocial support mechanisms are required, including the phase in which they should be implemented. The chapter also presents a checklist of items and tasks that planners should consider or complete when drafting their plan.

15.1 Overview

Recommendations for pre-pandemic periods focus on the establishment of psychosocial support services that will help workers manage both emotional stress resulting from the response to an influenza pandemic and related personal, professional, and family issues. The recommendations also address the preparation of informational materials for employees and their families and the development of workforce resilience programs to assist families of deployed workers.

Recommendations for the pandemic period focus on the delivery of psychosocial support services to response workers, the provision of occupational health information to healthcare providers, and the implementation of workforce resilience programs.

This workforce support document also addresses the psychological and social (“psychosocial”) needs of the occupational groups that will participate in the response to an influenza pandemic. These groups include:

- Healthcare workers
- Emergency field workers and other public health personnel
- First-responders
- Family members of all of these groups

15.2 Issues

All employees may experience:

- Illness and death among colleagues, family members, patients
- Fear of contagion and/or of transmitting disease to others
- Feelings of shock, confusion, or disbelief; extreme sadness, anger, or guilt
- Sense of ineffectiveness and powerlessness
- Difficulty maintaining self-care activities (e.g. getting sufficient rest)
- Prolonged separation from family
- Concern about children and other family members
- Constant stress and pressure to keep performing
- Domestic pressures (e.g. caused by school closures, disruptions in day care)
- Stress of working with sick or agitated persons and their families
- Concern about receiving vaccines and/or antiviral drugs before other persons

These issues may be exacerbated by:

- Lack of information
- Rumours, misconceptions, or conspiracy theories
- Lack of trust in health institutions, employers, or government leaders
- Belief that medical resources are not available or fairly distributed
- Economic and societal disruption)
- Restrictions on civil liberties
- Infection control procedures that limit personal contact or hinder communications

In addition to the issues faced by all response workers, **healthcare workers** may experience:

- Increased risk of exposure to pandemic influenza
- Constant need to take special precautions to avoid exposure to the pandemic virus
- Stigmatization and discrimination associated with being perceived as a source of contagion
- Ethical dilemmas (e.g. conflicts between one's roles as healthcare provider and parent/spouse)
- Increased difficulty/stresses on human resources pool
- Frustration regarding the need/expectation to maintain business as usual
- Physical isolation associated with use of infection control measures that limit interpersonal contact

The **families of healthcare workers** will face many challenges in addition to the fears and disruptions that everyone will face during a pandemic. For example:

- Healthcare workers might be frustrated, tired, irritable, restless, emotional, or distressed.
- Healthcare workers might be less understanding, energetic, or good natured than usual.
- Healthcare workers will likely face increased emergency workloads that will make it difficult for them to communicate regularly with family members.
- Family members might experience stigmatization or discrimination.

15.3 Pre-Pandemic Action Plan

- Institutionalize psychosocial support services:
 - Healthcare organizations should consider incorporating psychosocial support services into occupational health and emergency preparedness planning.

- Planners should contact community-based organizations and non-governmental organizations to determine the types of psychological and social support services and training courses that will be available during a pandemic event.
- Prepare workforce support materials:
 - Obtain or prepare workforce support materials (in hard copy or electronic format) for distribution during a pandemic. These materials should be designed to do the following:
 - Educate and inform employees about emotional responses they might experience or observe in their colleagues and families (including children) during an influenza pandemic, and strategies to cope, including:
 - Stressors related to pandemic influenza
 - Signs of distress
 - Traumatic grief
 - Psychosocial aspects related to management of mass fatalities
 - Stress management and coping strategies
 - Strategies for building and sustaining personal resilience
 - Behavioural and psychological support resources
 - Strategies for helping children and families in times of crisis
 - Strategies for working with highly agitated patients
 - Describe workforce support services that will be available during an emergency, including confidential behavioural health services and employee assistance programs.
 - Answer questions about infection control practices to prevent the spread of pandemic influenza in the workplace.

Refer to Appendix 24, p. 268 for more information.

- Develop workforce resilience programs:
 - Organizations should consider establishing workforce resilience programs that will help deployed workers prepare for, cope with, and recover from social and psychological challenges.
 - To assist employees to cope with the special challenges posed by an influenza pandemic, it is recommended that organizations should do the following:
 - Plan for a long response (i.e. over the course of multiple waves; 12-18 months).
 - If not already in place, consider augmenting employee assistance programs to support the families of healthcare workers.
 - Provide program administrators with information on:
 - Cognitive, physiological, behavioural, and emotional symptoms that might be exhibited by patients and their families (especially children), including symptoms that might indicate severe mental disturbance
 - Self-care (i.e. actions to safeguard physical and emotional health and maintain a sense of control and self-efficacy)
 - Cultural (e.g. professional, educational, geographic, ethnic) differences that can affect communication
 - Potential impact of a pandemic on special populations (e.g., children, ethnic or cultural groups, the elderly).

- Plan for a stress control/resilience team. These teams can assist and support employees and foster cohesion and morale by:
 - Monitoring employee health and well-being (in collaboration with occupational health clinics, if possible)
 - Developing and staffing “rest and recuperation sites”
 - Distributing informational materials

15.4 Action Plan during a Pandemic Event

- Deliver psychosocial support services
 - Healthcare organizations should make full use of techniques and communication tools that can help response workers manage emotional stress and family issues and build coping skills and resilience. These tools can include:
 - Deploying stress control/resilience teams who focus their efforts on supporting healthcare workers.
 - Rest and recuperation sites. Sites can be stocked with healthy snacks and relaxation materials (e.g. music, relaxation tapes, movies), as well as pamphlets or notices about workforce support services.
 - Provide access to activities that help reduce stress (e.g. rest, hot showers, light exercise).
 - Confidential telephone support lines staffed by behavioural health professionals (e.g. EAP).
 - Services for families. Services to families of employees who work in the field, work long hours, and/or remain in hospitals or other workplaces overnight might include:
 - Help with elder care and child care
 - Help with other issues related to the care or well-being of children
 - Provision of information via websites or hotlines
 - Access to expert advice and answers to questions about infection control measures and self care.
 - Information for commuters. Workers might need alternative transportation and scheduling (e.g. carpooling, employer-provided private transportation, alternate work schedules during off-peak hours) to avoid exposure to large groups of potentially infected persons.
 - Encouragement of telecommuting for positions that could work from home.
 - Services provided by community- and faith-based organizations. Activities of these organizations can provide relaxation and comfort during trying and stressful times.
 - Ensure that managers are supported so they’re able to lead staff, with up-to-date information on pandemic issues and training in strategies for maintaining a supportive work environment.
 - As much as possible, rotate workers between low and high-stress deployments.
 - Encourage team briefings at the beginning and end of shifts. Allow for venting of emotions.
- Provide information to employees
 - Healthcare workers

- Healthcare workers – especially those who work in hospitals – are likely to be under extreme stress during a pandemic and will have special needs for open lines of communication with employers and access to up-to-date information.
- Healthcare facilities should ensure that employees have ongoing access to information on the following:
 - International, national, and local progress of the pandemic
 - Work issues related to illness, sick pay, staff rotation, re-deployment, shift coverage, overtime pay, use of benefit time, transportation, and use of cell phones
 - Family issues, especially availability of child care
 - Healthcare issues such as:
 - availability of vaccines, antiviral drugs, and personal protective equipment (PPE);
 - actions to address understaffing or depletion of PPE and medical supplies;
 - infection control practices as conditions change;
 - approaches to ensure patients' adherence to medical and public health measures without causing undue anxiety or alarm;
 - management of agitated or desperate persons;
 - guidance on distinguishing between psychiatric disorders and common reactions to stress and trauma;
 - management of those who fear they may be infected, but are not (so-called "worried well"); and
 - guidance and psychosocial support for persons exposed to large numbers of influenza cases and deaths and to persons with unusual or disturbing disease symptoms.
 - Healthcare issues such as:
 - Because healthcare workers might be called upon to fill in for sick colleagues and perform unfamiliar tasks, healthcare organizations should consider providing written instructions for "just-in-time" cross-training on essential tasks.
 - Other occupational groups:
 - Other occupational groups that might participate in the response to pandemic influenza should receive training materials that will help them anticipate behavioural reactions to public health measures, especially if such actions are compounded by an economic crisis or abrupt loss of essential supplies and services.
 - Stigmatization issues:
 - Healthcare workers and other emergency responders should be provided with information on what to do if they or their children or other family members experience stigmatization or discrimination because of their role in the pandemic influenza response.

Post-Pandemic Action:

- ❑ Interview healthcare workers and family members (including children) to assess lessons learned that might be applied to future emergency response efforts (refer to Appendix 25, p. 270).
- ❑ Provide ongoing access to post-emergency psychosocial support services for workers and their families (on-site or through partner organizations).
- ❑ Conduct an ongoing evaluation of the after-effects of the pandemic on employees' health, morale, and productivity.

15.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding psychosocial support for health care workers include:

- Ensure the draft “tool kit” (as per health human resource planning chapter — refer to Chapter 14) includes information on providing psychosocial supports to health care workers.
- Following from the guidelines in this chapter, each health care organization is to develop education and awareness materials for the employees in their respective institutions.

15.6 References and Supporting Documentation

City of Toronto. “Chapter 6: Emergency Planning,” Toronto Pandemic Influenza Plan. November 2005, 69.

Crimando, Stephen M. MD. “The Emotional and Behavioural Consequences of CBRN Events and Other Complex Public Health Emergencies: Part II,” Big Medicine.ca. Available online from: <http://www.bigmedicine.ca/stevenkrimando.htm>. Last updated 10 June 2006.

Government of the United States. “Supplement 11: Workforce Support – Psychosocial Considerations and Information Needs,” Department of Health and Human Services Pandemic Influenza Plan. 30 March 2006, S11-1 to S11-14.

San Mateo County. “Section 13: Psychosocial Workforce Support Services,” Pandemic Flu Plan. 2 May 2006, 217-41.

Sunnybrook Hospital. SARS Crisis Management: Lessons Learned Report. Unpublished document. February 2004.

PART V:
MUNICIPAL SERVICES
RESPONSE TOOLS AND GUIDELINES

16 MAINTAINING MUNICIPAL CRITICAL INFRASTRUCTURE

Working to maintain and protect municipal critical infrastructure is essential during any emergency. During an influenza pandemic, the public will continue to demand that certain essential services continue to be provided. Continuing to provide these services will minimize societal disruption, a key goal of Waterloo Region's response and recovery efforts. Ensuring the provision of public works services will allow the health care sector to treat ill patients and permit emergency responders to respond to calls accordingly. It will also allow other organizations involved in the response and recovery efforts to perform their essential tasks.

Like all other sectors and workplaces, organizations responsible for the provision of critical infrastructure may encounter staffing shortages, disruptions to supply chains, and high rates of absenteeism (upwards of 35 per cent). These challenges will make it difficult for providers, particularly municipalities, to maintain all of their services. Working to maintain critical infrastructure and working together, however, will be a priority.

Within Waterloo Region, the organizations responsible for the provision of critical infrastructure are:

- Region of Waterloo
- City of Kitchener
- City of Waterloo
- City of Cambridge
- Township of North Dumfries
- Township of Wellesley
- Township of Wilmot
- Township of Woolwich
- Cambridge and North Dumfries Hydro
- Waterloo North Hydro
- Kitchener-Wilmot Hydro
- Union Gas
- Kitchener Utilities

16.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles, several planning considerations specific to municipal critical infrastructure were created. Developed by representatives from critical infrastructure providers, these outline key assumptions that will guide organizations involved in the planning, response and recovery efforts. These considerations will also ensure the goals and guiding principles of the CIPP are upheld.

These planning considerations include:

- Planning to maintain services during an influenza pandemic is essential.
- Public sector organizations in Waterloo Region will be responsible for maintaining municipal critical infrastructure. Other critical infrastructure providers (e.g. telecommunications, information technology) will be responsible for ensuring their infrastructure is maintained.

- Each municipality and critical infrastructure provider will be responsible for preparing and testing service (business) continuity plans to ensure essential functions internal to their organizations (e.g. facilities, information technology services) are operational.
- In some instances during a pandemic, priorities regarding the provision of municipal critical infrastructure will need to be set on a region-wide basis.

16.2 Coordinating the Response Effort

A pandemic will require a high level of community coordination. During the pandemic period, this coordination will be achieved through the establishment of a Regional Emergency Operations Centre (REOC), located in Council Chambers at Regional Headquarters (150 Frederick Street, Kitchener). Community resources and activities will be coordinated through the REOC.

Major decisions pertaining to critical functions coordinated at a region-wide level will be made by the Regional Pandemic Control Group (RPCG) (which consists of municipal representatives and will be chaired by the Region's Chief Administrative Officer or designate). Refer to Section 4.2.5 for more information on the RPCG.

Four control groups will be responsible for making decisions pertaining to their given sector. Their recommendations, requests for support, and decisions will be conveyed to the RPCG. The RPCG will serve as the central coordination point for the response and recovery efforts. The four groups include:

- Health Sector Control Group
- Community Support Control Group
- Critical Infrastructure Control Group
- Communications Control Group

Additional groups may be established as needed.

16.2.1 Critical Infrastructure Control Group

The Critical Infrastructure Control Group (CICG) will be responsible for supporting the Regional Pandemic Control Group and ensure the provision of critical infrastructure is maintained during an influenza pandemic. The CICG will be established once a municipality is unable to maintain or operate a critical function, and it requests assistance from the Regional Pandemic Control Group. The CICG will then establish priorities and make the necessary decisions and recommendations regarding the shared allocation of resources for that critical infrastructure.

Membership

The Commissioner of Transportation and Environmental Services for the Region of Waterloo (or designate) will serve as chair of the Critical Infrastructure Control Group.

The group will be comprised of senior public works officials from all municipalities in Waterloo Region.

The group will also have representation from the other critical infrastructure providers (e.g. gas, hydro, water).

Roles and Responsibilities

- To assess the ability of municipalities in Waterloo Region to maintain their critical functions.
- To determine priorities for the provision of critical infrastructure services and functions.
- To allocate resources, including the sharing and pooling of resources, based on mutually agreed upon priorities.
- To implement mutual aid/mutual assistance agreements when required.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).
- To receive direction from the Ministry of Community Safety and Correctional Services (MCSCS) / Emergency Management Ontario (via the Provincial Emergency Operations Centre).

16.3 Maintaining Municipal Critical Infrastructure

As part of Waterloo Region's planning efforts, critical infrastructure providers devised a list of sectors, infrastructure and functions they will work to maintain during an influenza pandemic (Table 11). Each organization responsible for these services is committed to allocating the necessary resources to ensure these functions are provided.

Table 11: List of Critical Infrastructure and Functions Providers will work to Maintain during an Influenza Pandemic

Critical Sector	Critical Infrastructure	Critical Function
Water	Water Supply*	Water Quality Water Quantity Regulatory Compliance Operations and Maintenance
	Water Distribution*	Operations and Maintenance Regulatory Compliance
	Wastewater Collection*	Operations and Maintenance Pumping Station Function Spills Response
	Wastewater Treatment*	Treatment Regulatory Compliance Operations and Maintenance
	Stormwater*	Spills Response
Transportation	Transit	Regular Transit Operations and Maintenance Mobility Plus
	Road Infrastructure*	Operations and Maintenance Snow Removal Traffic Signals

Critical Sector	Critical Infrastructure	Critical Function
	Airport	Operations and Maintenance Air Control
Energy	Electrical Supply	Distribution Generation Operations and Maintenance
	Natural Gas Supply	Distribution Supply Operations and Maintenance
	Vehicle Fuel Supply	Distribution Supply
Waste	Waste Management*	Refuse Collection Refuse Disposal Regulatory Compliance
Other	Cemetery/Crematoria Services	

As part of the planning process, each infrastructure provider will prepare, design and test service (business) continuity plans to effectively manage the impacts of an influenza pandemic. These plans typically outline the resources (human, financial, physical) required to ensure services are maintained. However, it should be recognized that there may be instances where services will be disrupted. In these circumstances, the Regional Pandemic Control Group will work with the provider as they work to return service levels to normal.

In some instances, services will be coordinated regionally under the direction of the Regional Pandemic Control Group. This will only occur for critical infrastructure services and functions that are carried out by multiple municipalities (these are marked with a “*” in Figure 1) if a municipality declares it is unable to maintain that critical function.

As per the concept of operations listed in the pandemic response structure (refer to Section 4.2.4) if a municipality is unable to maintain or operate a critical function, it can request assistance from the Regional Pandemic Control Group. Once the request is received, the RPCG (or a designated authority) will decide on an appropriate response. This could include a bilateral/multilateral agreement, or the RPCG could assume decision-making responsibility for that function for all municipalities. This would include pooling of municipal resources related to that function, establishing joint priorities and allocating resources to meet these priorities.

A **draft** mutual assistance agreement (refer to Appendix 26, p. 271) outlines the conditions pertaining to the sharing and provision of personnel, services equipment or material between organizations. This agreement will guide any actions taken by the Regional Pandemic Control Group or Local Municipal Control Group(s) when critical functions are managed at a region-wide scale. The draft agreement will be forwarded and discussed with the appropriate union representatives during the next planning stage.

This agreement or concept of operations does not preclude any organization involved in the response and recovery efforts from requesting assistance (from the RPCG) to assist in operating any other critical service or function.

16.4 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding municipal critical infrastructure include:

- Formalize the Critical Infrastructure Control Group (members, etc.)
- Obtain endorsement/approval from infrastructure providers on the mutual assistance agreement (refer to Appendix 26, p. 271).
- Following from the guidelines in this chapter, each infrastructure provider is to design and test a service (business) continuity plan for the key critical service(s) they provide. Where possible, working groups comprised of staff from multiple providers will be established to determine joint priorities and ensure the appropriate linkages between providers are made.

17 PLANNING FOR A SURGE IN NATURAL DEATHS

An influenza pandemic is not like any other natural disaster. Unlike the immediate emergency response and mass burial requirements of traditional emergency (e.g. weather-related event or infrastructure failure), an influenza pandemic will result in fatalities that occur over a longer period of time. While the exact number of deaths will not be known until after a pandemic arrives, a moderate or severe pandemic will strain the individuals and organizations involved in the management of the deceased if large numbers of deaths occur in a relatively short period of time (one to two weeks). In addition, the sector will also need to continue to process non-influenza related deaths throughout a pandemic. It is also important to consider that there may be severe staffing shortages.

The organizations involved in caring for the deceased include:

- Funeral homes (and directors)
- Cemetery/crematoria operators
- Local coroners
- Municipalities
- Health care facilities
- Family physicians
- Emergency responders (police, fire, EMS)

This chapter presents a general strategy to ensure the proper screening, recognition, reporting of and disposition of human remains during an influenza pandemic. It highlights provincial guidelines related to pandemic-related deaths and how organizations in Waterloo Region will work together to expedite remains processing during a pandemic. While the operational details related to the strategy will be finalized during the next planning phase, key considerations when planning for a surge in natural deaths during an influenza pandemic are highlighted.

17.1 Surge in Natural Deaths

The Provincial Coordination Plan for an Influenza Pandemic (PCPIP) (2006, 3) highlights the difference between a mass fatality and a natural death surge. A mass fatality is defined as an:

“Incident or event (usually a single event) where several persons die, and where the number of deaths exceeds the capabilities of the local resources (personnel, equipment, facilities) to respond with appropriate investigation, recovery of remains, examination of the bodies, identification of the decedents, reporting of findings, and ultimate disposition of the human remains (repatriation, burial, cremation).”

Conversely, a natural death surge is defined as:

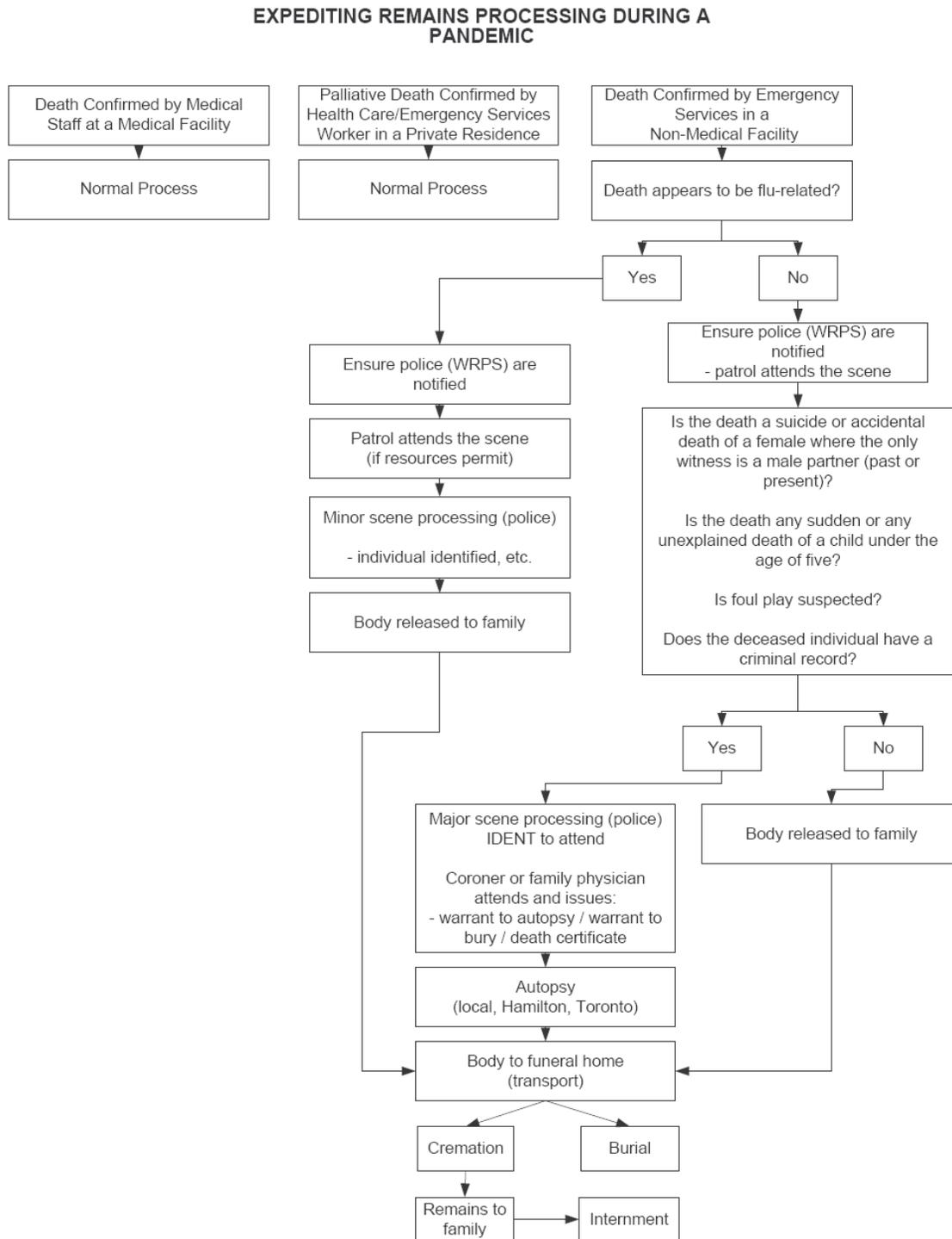
“An increased number of deaths from natural causes that can occur over a period of time (weeks to months) rather than one incident.”

A natural death surge is not a mass fatality event and most deaths during a surge would not require investigation through the local coroner. It is anticipated that a pandemic would be a “natural death surge” rather than a “mass fatality event.” This change, combined with the anticipation of limited resources during a pandemic, requires changes to the normal processing of human remains.

17.2 Expediting Remains Processing During a Pandemic

Figure 5 presents the process for expediting remains processing during a pandemic in Waterloo Region.

Figure 5: Expediting Remains Processing During a Pandemic



At the present time, three scenarios are presented:

- When a death is confirmed by medical staff at a medical facility
- When an expected (or palliative) death is confirmed by a health care or emergency services worker in a private residence; and,
- When a death is confirmed by an emergency services worker in a non-medical facility.

17.2.1 When a Death is Confirmed by Staff at a Medical Facility

Currently, facilities such as hospitals and long-term care homes have medical staff (physicians, nurses, etc.) on site or available on an on-call roster. These staff are legally authorized to perform death pronouncements and physicians are also permitted to certify deaths. While the staff may find it difficult to cope with an increase in the number of deaths, it is expected they will continue to perform this function during a pandemic.

Once the death is pronounced and certified, the usual process will be followed. This includes:

- Contact the Coroner to investigate the death (only if required). See Section 17.2.1.1 for the Coroner's involvement in pandemic-related deaths.
- Prepare the body for transportation
- Transport the body to the funeral home (or to the morgue if the Coroner must complete an autopsy)
- Complete autopsy (if required)
- Embalm (if required)
- Host funeral service
- Transport the body to cremation or burial site
- Cremate/Bury the deceased

During a pandemic it is expected this system may need to be modified. For example, the deceased may need to be stored for longer periods of time if burials and/or cremations are delayed. Challenges arising throughout this process are highlighted in Section 17.3.

17.2.1.1 The Role of the Coroner

According to the Provincial Coordination Plan for an Influenza Pandemic (PCPIP), Section 10 of the *Coroners Act* provides the legal framework and context in which coroners in the province conduct investigations into deaths. According to Section 10, this includes both natural and non-natural deaths. For natural deaths, this includes deaths that are *sudden* and *unexpected*. According to the PCPIP (2006, p.4):

“Deaths resulting from a declared influenza pandemic would be regarded as natural but not necessarily sudden and unexpected. It can therefore be assumed that the coroner would not automatically have jurisdiction or become involved in all pandemic deaths.”

A screening questionnaire, provided by the Regional Supervising Coroner for Central West Region (refer to Appendix 27, p. 280), is to be used when investigating possible deaths from influenza (outside of a health care setting). The questionnaire presents a series of questions to determine if the coroner needs to investigate the death. Essentially, if it is suggestive that an influenza infection might have led to the death the coroner will not investigate the case.

The document is subject to the revision and finalization at the time of a declared influenza

pandemic, and will be revised once the characteristics of the circulating strain are known.

17.2.2 When an Expected (or Palliative) Death is Confirmed by a Health Care or Emergency Services Worker in a Private Residence

Similar to staff in medical facilities such as hospitals and long-term care homes, health care workers and emergency responders pronounce deaths in a private residence if the death is expected (or palliative) in nature. Certification is typically completed by a family physician or other appropriate official. During a pandemic it is anticipated this process will also continue as resources will be limited and there will not be a need to investigate these deaths. It is not anticipated that the Waterloo Regional Police Service or other emergency officials will attend the scene in these instances.

Once the death is pronounced and certified, the usual process will be followed (Refer to Section 17.2.1). Challenges arising throughout this process are highlighted in Section 17.3.

Operational details will be completed in subsequent planning stages.

17.2.3 When a Death is Confirmed by an Emergency Services Worker in a Non-Medical Facility

For deaths that are confirmed (particularly unexpected deaths) outside of a non-medical facility the process for expediting remains will be different. After the death is confirmed by a health care or emergency services worker, he/she will determine if it is flu-related. If the death appears to be flu-related, the Waterloo Regional Police Service will be notified. When and if resources permit, a police officer will attend the scene. After minor processing, the deceased will be released to the family and processed accordingly.

If the death does not appear to be flu-related, normal procedures will be followed. The police will secure the scene and complete the necessary investigation. Four questions will be investigated (as per the Coroner's direction). These questions include:

- Is the death a suicide or accidental death of a female where the only witness is a male partner (past or present)?
- Is the death any sudden or unexplained death of a child under the age of five?
- Is foul play suspected?
- Does the deceased individual have a criminal record?

If the answer to any of these questions is "yes," the police must proceed with major scene processing. The coroner (or in some instances a family physician) will attend the scene and issue a warrant to bury, a warrant to conduct an autopsy or a death certificate. Autopsies take place in health care facilities locally, in Hamilton or in Toronto based on the nature of the death. After the autopsy is complete, the body is released to the family for proper disposition.

If the answer is "no," it will be presumed that the individual passed away as a result of an influenza infection. A basic investigation will be conducted and the body will then be released to the family for final disposition.

As per Section 17.2.1.1, the coroner will not become involved if it is suggestive that an influenza infection might have led to the death.

As per most strategies, this process may be modified during an influenza pandemic. Modifications may result once the characteristics of the circulating strain are known and/or if resources become strained.

17.3 Challenges

While the strategy highlighted in Section 17.2 will help to expedite remains processing during a pandemic, it is recognized there are potential challenges (or “bottlenecks”) that might hinder this process. These include:

Human and Physical resources

Similar to all other sectors, organizations involved in expediting remains processing during a pandemic may face significant absentee rates and resource shortages. This will challenge all aspects of the process. All organizations will be required to design and test service and/or business continuity plans to effectively manage the impacts of a pandemic such as staffing shortages, disruptions to supply chains, absenteeism, and continuity of key or critical services.

In particular, there may be a need for the funeral home sector to coordinate their efforts. Initial discussions indicate the funeral homes in Waterloo Region might participate in a daily teleconference to discuss service continuity issues and discuss opportunities to collaborate. There may also be opportunities for the Region of Waterloo to adapt its web-based technology (Web EOC, refer to Section 18.9 for more information) to track funeral home capacity, etc.

Pronouncement and certification of death

In Ontario, there is no statutory requirement for who can pronounce death although it is typically done by a paramedic, police officer, physician or nurse. Certification, however, must be completed by a physician. In addition, under certain circumstances (as per s. 10 of the *Coroners Act*) the death must be reported to, and investigated by, the local coroner. In these circumstances, the local Coroner must certify the death. In Waterloo Region, there are four coroners. Because of the expected increased mortality rates it may be difficult for physicians and coroners to keep up with demand for their services. One strategy would be for one coroner/physician to circulate amongst the funeral homes at a standard time each day. This strategy will be explored during the next planning phase.

The certification of death is one potential “bottleneck” in this process. The Ministry of Health and Long-Term Care recognizes this challenge and is working to expedite the process for pronouncement and certification of death.

Transportation

In most circumstances, bodies are transported by individual funeral homes or a transportation service. While there are no legal requirements in terms of transporting the deceased, the Regional Pandemic Control Group will ask that individuals/families NOT transport bodies to a provider, cemetery or other destination.

Other than the individual funeral homes, there is one body transport service in Waterloo Region. While this service is currently developing a service continuity plan, there may be human and physical resource challenges. As such, there may be time delays with respect to the collection of bodies.

Storage

In Waterloo Region there is enough space to appropriately store 60 bodies. An appropriate storage facility is one that can be maintained at four to eight degrees Celsius (e.g. hospital morgues, cemeteries). If a pandemic is moderate or severe, it is possible that the number of deaths (at any given time) could exceed this capacity. Therefore, it will be necessary to develop a strategy to either build surge capacity in existing facilities or find alternate facilities. Alternatively, the embalming process could be expedited which negates the need for cold storage. There would, however, still be the need to find suitable storage for the embalmed bodies. In a severe pandemic it may be necessary to store bodies for an extended period of time. Organizations in this sector are currently considering their alternate storage options (e.g. refrigerated trucks, use of vaults).

Burials and Cremations

Similar to storage, a moderate or severe pandemic will limit the ability of cemetery and crematoria operators to meet demand for their services even if the facilities consider operating at fully capacity. Neighbouring jurisdictions, particularly rural areas which anticipate using cemetery/crematoria services in Waterloo Region may further strain resources (Perth County Influenza Pandemic Plan). Cemeteries and municipalities continually work to identify sources of supplementary workers. Regardless, there may be a need to store bodies until burial/cremation can occur.

In addition, local coroners must currently sign all cremation certificates. If there are a large number of deaths, or if the number of available coroners decreases, there may be a backlog. This backlog would delay cremation and increase the need for temporary storage.

Further, local Coroner's must currently sign all cremation certificates.

Communication

As the traditional process for expediting remains will be altered during a pandemic, the revised process will need to be communicated to the public. Key messages will be required to educate and inform the public with respect to what actions they should take if a loved one passes away. Ensuring the public is well informed will be essential if responders are to work to maintain societal order.

17.4 Finalizing the Strategy

As part of the next planning phase, organizations will work to finalize Waterloo Region's strategy to expedite the remains processing during a pandemic. While this phase primarily focused on the actual process, there are several considerations that need to be considered when planning for a surge in natural deaths during a pandemic, including faith-based considerations. A guidance document, highlighting the considerations that will guide the next planning phase is highlighted in Appendix 28 (p. 283).

17.5 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available.

The next planning steps regarding planning for a surge in natural death include:

- Finalize the strategy to expedite the remains processing during a pandemic. This includes:
 - Determine the role of all organizations involved in the process;
 - Discuss the proposed process with faith-based communities; and,
 - Send the strategy to the Supervising Regional Coroner for review and comment.
- Secure the necessary resources and infrastructure to implement the strategy.
- Encourage Emergency Management Ontario and the Ministry of Health and Long-Term Care to provide guidance regarding the pronouncement and certification of death. Incorporate all guidelines into Waterloo Region's strategy.
- Develop key messages that can be used on communication materials to inform the general public of the process to expedite the process during a pandemic.

17.6 References and Supporting Documentation

City of Toronto. "Chapter 6: Emergency Planning," Toronto Pandemic Influenza Plan. March 2006.

Perth District Health Unit. "Chapter 8. Mass Fatality Management." Perth County Influenza Pandemic Plan. October 2006.

Province of Ontario. Provincial Coordination Plan for an Influenza Pandemic. Ministry of Community Safety and Correctional Services. July 2006.

18 CRISIS COMMUNICATIONS

Public education and communications strategies will be essential to Waterloo Region's effective and coordinated pandemic response effort. These strategies will be critical to educating the public, responding agencies, health care workers, emergency responders, stakeholders, and media about:

- Responding appropriately to the outbreak;
- Risks and perception of risks associated with the pandemic;
- Where to obtain information and supports; and,
- Appropriate infection prevention and control and public health measures.

In addition, there is a need to ensure consistency between the various levels of government. It will be imperative that the federal, provincial and municipal governments share information and coordinate their messages. This will ensure everyone works towards the common goals of reducing morbidity and mortality and minimizing societal and economic disruption. This chapter is aligned with information provided by the World Health Organization as well as the Canadian Influenza Pandemic Plan and the Ontario Health Plan for an Influenza Pandemic.

Given the nature of an influenza pandemic, and the high demand for information that will result, communications will be structured differently than in many other types of emergencies. Traditional methods of communication may not be appropriate as a pandemic will be a widespread, long-term event that will strain resources.

This chapter will highlight key audiences/stakeholders, messages and communication tools that will be used to provide effective crisis communications during a pandemic. It will also identify how organizations involved with the response effort will coordinate the dissemination of information. The information needs of both internal and external audiences are considered throughout.

18.1 Planning Considerations

Section 3.3 highlights seven guiding principles that provide direction to the organizations and individuals involved in the planning, response and recovery efforts. To build on these principles, several planning considerations (specific to communications) were developed. These planning considerations outline the key concepts spokespersons and communications officials will follow during a pandemic event. These will ensure the goals and guiding principles of the overall CIPP are upheld.

These planning considerations include:

- Education, in advance of a pandemic, will be essential to prepare citizens of Waterloo Region for an influenza pandemic.
- Information must be provided on an ongoing basis to all audiences. Decisions must be clearly communicated to ensure an open and transparent response and recovery effort.
- The community must be provided with up-to-date, accurate information about the circulating strain and what they can do to protect individual and family health.

- There is a need for organizations and all levels of government to coordinate their efforts in order to maintain the consistency of messages, and to build trust with members of the public.
- Information must be easily available to all members of the public. This will require material to be written at appropriate literacy levels and in multiple languages.
- A broad network for disseminating information will be established. Traditional methods of operating may not be feasible given the nature of the event.

18.2 The Role of Public Health

During an influenza pandemic, Public Health will be responsible for coordinating the community response. This will include:

- Maintaining a local surveillance system and investigating outbreaks;
- Developing plans to provide mass immunizations and distribute vaccines and antiviral drugs;
- Liaising with local partners;
- Coordinating the health care sector response to an influenza pandemic;
- Determining the appropriate public health measures, in cooperation with provincial officials;
- Defining clear responsibilities for communication at the local and facility level during a pandemic; and,
- Collaborating with the provincial government to deliver public information/education programs.

Public Health will support the Regional Pandemic Control Group and Health Sector Control Group in creating and disseminating information to the public and stakeholders. From a communications perspective, the primary role of Public Health officials will be to work with the Communications Control Group and communications officials from response organizations. Public Health will also consult with the appropriate subject matter experts to ensure the information is accurate from a public health perspective.

18.3 Key Audiences and Stakeholders

During a pandemic, it is the responsibility of communications officials in all responding agencies to help deliver timely and accurate information to a variety of audiences and stakeholders using identified channels of communication. Identified key audiences and stakeholders include:

- General public
- Media
- Special populations (e.g. the homeless, children, frail elderly, the homebound, people who cannot speak/read English, persons with a disability, visually/hearing impaired)
- Health services (including hospitals, health care workers, Community Care Access Centre, primary health care providers, urgent care centres, alternative health care workers, etc.)
- Regional and Municipal Councils and staff
- Community organizations and agencies

- Emergency responders (Waterloo Regional Police Service, Fire Departments, Emergency Medical Services)
- Neighbouring municipalities and health units
- Federal and provincial governments
- Unions
- Emergency management groups (i.e. Regional Pandemic Control Group [RPCG], Regional Emergency Planning Advisory Committee [REPAC], community emergency management coordinators [CEMC])
- Internal audiences/staff in each organization

18.4 Roles and Responsibilities

A pandemic will require a high level of community coordination. During the pandemic period, this coordination will be achieved through the establishment of a Regional Emergency Operations Centre (REOC), located in Council Chambers at Regional Headquarters (150 Frederick Street, Kitchener).¹³ Community resources and activities, including communications, will be coordinated through the REOC.

Declaration of an emergency will likely take place following a federal/provincial declaration. To ensure Waterloo Region's pandemic response efforts are effective and organized, an emergency declaration will be coordinated between the Region and the area municipalities (Refer to Section 4.2.1).

Major decisions pertaining to critical functions coordinated at a region-wide level will be made by the Regional Pandemic Control Group (RPCG) (which consists of municipal representatives and be chaired by the Region's Chief Administrative Officer or designate). Refer to Section 4.2.5 for more information on the RPCG.

Four Control Groups will be responsible for making decisions pertaining to their given sector. Their recommendations, requests for support, and decisions will be conveyed to the RPCG. The RPCG will serve as the central coordination point for the response and recovery efforts. The four groups include:

- Health Sector Control Group
- Community Support Control Group
- Critical Infrastructure Control Group
- Communications Control Group

Additional groups may be established as needed.

18.5 The Communications Control Group

The Communications Control Group (CCG) will be responsible for communicating the decisions of the Regional Pandemic Control Group and other control groups to the media and the general public. The CCG will make all decisions about communication vehicles, timing and format. The content of the communication messages will be developed by the other control groups in cooperation with the CCG.

¹³ Alternatively, during a pandemic, the EOC may meet virtually based on the technology available (e.g. teleconferencing, web-based technology).

Membership

The Region of Waterloo Director of Corporate Communications (or designate) will serve as chair of the Communications Control Group.

Region of Waterloo communications staff, from a variety of departments, will assume the role of Communications Officers within the Communications Control Group during a pandemic. The Communications Officers will support the chair and members of the Regional Pandemic Control Group and sector control groups.

Communications leads from the following organizations will be ex-officio members of the CCG. They will serve in an advisory capacity:

- Cambridge Memorial Hospital
- City of Cambridge
- City of Kitchener
- City of Waterloo
- Conestoga College
- Grand River Hospital
- St. Mary's General Hospital
- University of Waterloo
- Waterloo Catholic District School Board
- Waterloo Regional Police Service
- Waterloo Region District School Board
- Waterloo Wellington Community Care Access Centre
- Wilfrid Laurier University

Roles and Responsibilities

- To advise Regional Pandemic Control Group and sector control group members on communications strategies.
- To prepare spokespeople for media interviews as needed.
- To assist in devising and delivering key communications messages and vehicles to the media and general public.
- To coordinate media conferences at Regional headquarters as required.
- To evaluate the effectiveness of communications activities.
- To ensure pertinent information and key decisions are transmitted and shared with the Regional Pandemic Control Group [RPCG] (via the Regional Emergency Operations Centre [REOC]) and with other sector control groups.
- To provide advice and make requests to the RPCG and the other sector control groups (via the REOC).
- To receive direction from the Ministry of Health and Long-Term Care and the Ministry of Community Safety and Correctional Services (MCSCS) / Emergency Management Ontario (via the Provincial Emergency Operations Centre).

Each area municipality and organization involved in the response and recovery efforts will be responsible for decision-making and communications regarding services and functions specific to their municipality or organization unless the function is coordinated by one of the control groups. Refer to Section 4.2.4 for more information.

18.6 Spokespeople and Communications Leads

During the Pandemic Alert and Pandemic Periods, roles and responsibilities will be clearly defined in order to achieve consistency and accuracy. Key spokespeople, sector spokespeople, and communications staff will all play important roles as follows:

Primary Spokespeople

During a pandemic, the primary spokespeople for the Regional Pandemic Control Group will be the Regional Chief Administrative Officer and the Regional Chair (or designates). The Commissioner/Medical Officer of Health (or designate), who is also chair of the Health Sector Control Group, will speak to all health related issues and decisions. Municipal spokespersons will speak to activities and functions carried out by their respective municipality. Maintaining consistent spokespeople will allow the community to access accurate and consistent messages.

When required, the chairs of the Community Support, Critical Infrastructure and Communications Control Group may act as secondary spokespeople.

Organizational spokespeople

It is recognized that the media and general public will want to receive information from organizations involved in pandemic response and recovery efforts (e.g. Waterloo Regional Police Service, hospitals). Each individual agency/sector will be responsible for identifying these individual spokespeople once the emergency is declared.

Communications leads

Communications representatives from local hospitals, school boards, post secondary institutions, municipalities, the Region of Waterloo, Police Services, and other responding sectors have been identified to take a leadership role during a pandemic. These individuals will support the Communications Control Group (CCG) and will be responsible for ensuring that accurate and timely information reaches all audiences, both internal and external. Members will work together during the pandemic period to ensure all sectors have access to updated, accurate, and consistent information.

A communications bulletin will be developed by the CCG on an as-needed basis. This bulletin will be distributed via fax or e-mail to the appropriate organizational communications leads, and will contain the following information:

- Key decisions of the RPCG and sector control groups
- Key communications messages
- The status of the response and recovery efforts
- Appropriate surveillance data

The bulletin will be the primary communication vehicle between the CCG and organizational communication leads. A sample communications bulletin is provided in Appendix 29 (p. 287).

In addition, communications leads will also be responsible for providing the CCG and other responding organizations with up-to-date information regarding pandemic issues and decisions pertaining to their particular organization.

A list of CCG members is provided in Appendix 30 (p.288).

18.7 Communication Control Group Responsibility Checklists

Communications Control Group Chair

- [] Lead the Communications Control Group.
- [] Liaise with other Control Groups to gather information and determine appropriate messages (with input from provincial and federal authorities) for Waterloo Region.
- [] Liaise with communications officials at Public Health and other responding agencies.
- [] Advise Regional Chair, Chief Administrative Officer, Commissioner/Medical Officer of Health, and other Emergency Control Group members on communications strategies.
- [] Work closely with Communications Officers to determine key messages, vehicles, etc.
- [] Coordinate media conferences (as required) at Regional headquarters.
- [] Coordinate the preparation and dissemination of pandemic information to the media and general public.
- [] Prepare spokespeople for media interviews as needed.
- [] Correct inaccurate media reports.
- [] Attend meetings as needed.
- [] Evaluate the effectiveness of communications activities and adjust as needed.

Communications Control Group Officers

- [] Work closely with Communications Chair to determine key messages, communications vehicles, etc.
- [] Write news releases, advisories, fact sheets and other materials with input from Communications Chair.
- [] Monitor local media coverage and correct errors.
- [] Attend control group meetings.
- [] Ensure relevant information is passed on to Communications Chair and other control groups.
- [] Assist Chair with coordination of media conferences.
- [] Assist with updating of pandemic website (www.waterlooregionpandemic.ca) as needed, including posting news releases from local organizations and agencies.
- [] Keep files of all pandemic-related communications activities.
- [] Answers media inquiries and refers calls as appropriate.
- [] Update communications representatives (via communications bulletin) from local hospitals, school boards, post secondary institutions, municipalities, Waterloo Regional Police Services, and other responding organizations on a daily or weekly basis.

18.8 Communications Objectives and Key Messages (phase specific)

Key messages will be consistent with those from the Ministry of Health and Long-Term Care, but should include Waterloo Region-specific information. Detailed messages will be developed as the situation arises, but should incorporate the following:

Interpandemic and pandemic alert periods (WHO Phases 1 – 5)

Communications Objectives

- Identify language/literacy needs for public education materials.

- Develop messages for special populations (e.g. the homeless, children, frail elderly, the homebound, people who cannot speak/read English, persons with a disability, visually/hearing impaired).
- Organizations involved in the response effort to educate their staff on emergency communications protocols.
- Educate the public about pandemic and personal preparedness.
- Share pandemic planning information with partners and stakeholders.
- Promote activities such as hand hygiene, cough etiquette, staying home when you are sick, stocking up on necessary supplies, etc.
- Provide basic information (“pandemic 101”) on pandemic and reinforce message that the actions of individuals and community organizations will impact the outcome of a pandemic.
- Communicate that preparations have been made for community response to a pandemic.
- Educate the public about the health care system and how it will need to function differently during an influenza pandemic. Highlight the role of the Influenza Assessment, Treatment and Referral Centres (Flu Centres).
- Stress importance of business continuity planning.
- During phase 4 and 5, communications and education efforts will need to be intensified.

Key messages

- Hand hygiene and cough etiquette are extremely important practices to help prevent the spread of influenza. These practices should be used regularly.
- All levels of government are preparing for a pandemic, including a community response in Waterloo Region. The health care system will function differently during a pandemic.
- Now is the time for you business or organization to make pandemic-specific business or service continuity plans. Individuals and families should also devise pandemic-specific plans (e.g. child/elder care, stockpiling of emergency supplies, first aid kit)

Pandemic Period (WHO Phase 6)

Communications Objectives

- Rapidly communicate up-to-date information through the news media and other communications vehicles.
- Promote the use of a general information line and a general e-mail address for information and referral. Do not call Public Health for information.
- Ensure special populations are receiving accurate and timely information.
- Keep staff updated with latest information
- Monitor media coverage for accuracy and consistency. Correct any errors.
- Communicate information on vaccine and anti-viral availability and status, how to care for the seriously ill, Influenza Assessment, Treatment and Referral Centres (Flu Centres), essential services, etc.
- Infection control information – stress that this is a new virus and anyone can get sick. Promote crowd avoidance, eating healthy, hand hygiene, staying at home when sick, checking in on family and neighbours, etc.
- Communicate information about available services (non-medical) and how to access them.
- Information on emergency rooms, alternative care sites, etc.

- Business continuity messages.
- Death at home – what to do.
- Detailed information for health professionals.

Key messages

- A pandemic has been declared in the following locations (give available details, including number of cases).
- If you have flu-like symptoms, follow these directions (i.e. What to do, where to go, how to self screen, stress hand hygiene and cough etiquette).
- Watch the daily/weekly media conferences at Regional headquarters and visit the pandemic website (www.waterlooregionpandemic.ca) for updated information.

Post Pandemic Period (WHO Recovery)

Communications Objectives

- Assess community response to pandemic.
- Address questions and concerns from public.
- Begin recovery efforts to bring community back to normal functioning.
- Continue to make improvements to emergency plans.
- Work with businesses to help with recovery efforts.
- Communicate death toll and other statistics.

Key messages

- The pandemic period is over and Waterloo Region is beginning to recover. (After first wave, a second wave will occur in the near future.)
- Services are available to help you and your family during this difficult time (grief counselling, community outreach, etc.)
- Access to health care services is slowly becoming available.

Refer to Appendix 31 (p. 289) for a list of frequently asked questions.

18.9 Communications Vehicles

Internal Communications

Individual organizations will be responsible for communicating information to their own employees and stakeholders. Internal communication is extremely important and must:

- Allow staff to understand their role in the pandemic preparation, response, and recovery;
- Ensure they know how to protect themselves, their families, and their clients/students/patients, etc.;
- Address concerns in a timely manner;
- Provide accurate information about the pandemic; and,
- Provide information that is updated daily and is easily accessible.

Internal communication may take on a variety of formats, including e-mails, newsletters, internal website postings, and verbal updates. Organizations may be able to use information provided in the communication bulletin for internal purposes.

Community Pandemic Website – www.waterlooregionpandemic.ca

This website contains useful information about influenza pandemic including personal preparedness measures, business continuity planning tools, and a variety of links and resources. During a pandemic, this website will be a valuable tool that will be used to communicate information to the media, the general public, and other audiences.

The website will be frequently updated with the latest information, including the current pandemic alert status. News releases from a variety of local organizations will be posted to this site. A pandemic-specific e-mail address will be accessible for general inquiries that are not answered by information posted to the website.

The website also contains links to other sites, including the World Health Organization, Public Health Agency of Canada, Ministry of Health and Long-Term Care, and Canada's Pandemic Influenza website.

Media conferences

During an influenza pandemic, the provincial government will be following a daily information cycle that includes a media conference at 3:00 p.m. In Waterloo Region, a local media conference will take place after the provincial update, around 4:00 p.m. This conference may be daily during the height of the pandemic, but will be less frequent (weekly) as the pandemic waxes and wanes (see Pandemic Communications Information Cycle below).

The Waterloo Region media conference will always take place at Regional Headquarters (150 Frederick Street, Kitchener) so a permanent media room can be maintained for the duration of the pandemic. This room will be equipped with technology that will allow live feed for television stations and teleconference capabilities for print and radio. Communications leads from responding sectors will also have the ability to dial into these teleconferences. Reporters will be able to call in to ask questions during the designated time period. It is likely that few or no reporters will physically attend these media conferences due to high rates of absenteeism and the contagious nature of the influenza virus.

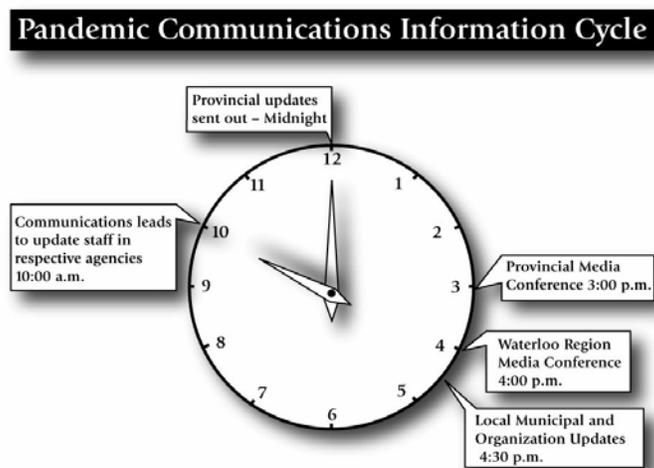
Each media conference will follow a similar format:

- Health-related update from Commissioner/Medical Officer of Health
- Update from Regional Chair/Chief Administrative Officer about functions carried out by the Regional Pandemic Control Group and Region of Waterloo services
- Question and answer period

All media inquiries about Regional services and health care matters should be saved for daily media conferences in order to provide the public with the most accurate and up-to-date information possible. Outside of the media conference, the Communications Control Group will clarify any inquiries the media may have.

Following the media conference, some municipal and organizational representatives will be available to speak to the media and provide city, township and sector-specific updates (at 4:30 p.m.). Figure 6 highlights the Pandemic Communications Information Cycle:

Figure 6: Pandemic Communications Information Cycle



News releases

The Region of Waterloo will issue frequent news releases about public health issues and Regional programs and services. Hospitals, school boards, post secondary institutions, municipalities, Police Services, and community agencies will also issue news releases that contain information specific to their institution. Communications leads from each organization will be in frequent contact with Communications Control Group to ensure the consistency and accuracy of messages.

Telephone lines / call centres

During an influenza pandemic, a general information telephone line will be established. This telephone line will be a general information and referral service. Basic health screening may also be carried out. The line will be operated using virtual centre technology to provide callers with up-to-date information regarding the pandemic via pre-recorded messages that can be updated as needed. The system will also be able to direct resident queries to an appropriate person based on a queue and availability system. All media calls will be directed to communications staff. Region of Waterloo Public Health and the Communications Control Group will be responsible for the operation of this system.

Posters, pamphlets, fact sheets, etc.

A variety of resources will be used to convey information before, during and after a pandemic, including posters, pamphlets, and fact sheets. All materials will be available on the pandemic website and will be distributed through various channels, including schools, doctor's offices, libraries, direct mail, etc. Public Health and other Regional staff will be responsible for creating and distributing these materials, with the input and assistance of responding sectors.

Advertising / PSAs

Radio, print and television public service announcements will likely be a useful resource during a pandemic. These vehicles will be used to convey information about cough etiquette, alternative care sites, government services, and so on, depending on the phase of the pandemic. Mass mailings may be used to widely distribute pandemic information.

Web EOC

Web Emergency Operations Centre (Web EOC) is software that allows real-time emergency information management in any location. The Region of Waterloo has rights to this software, and has trained communications leads and decision makers in the community how to use it. During a pandemic, this software will be used to share updated information between stakeholder groups.

Ministry of Health resources

A number of provincial resources (through the Ministry of Health and Long-Term Care) are also available for residents of Waterloo Region, including Telehealth, various websites, fact sheets, and media briefings/press conferences.

18.10 Evaluating Communications

Following the first wave (post-pandemic or recovery period), communications officials from responding agencies will meet to review the effectiveness of the communication vehicles, key messages and overall coordination. By reviewing the communication strategies against the guiding principles and planning considerations, communications officials will be able to identify effective and ineffective operational procedures. This will include consultation with stakeholders such as responding agencies and the local media.

To help evaluate communications efforts, staff will review pandemic materials and activities, and media coverage, including:

- News releases issued
- Interviews given
- Media coverage (radio, television, newspaper)
- Media errors and response
- Media conferences held
- Calls made to Public Health and general telephone information line

Recommendations from this evaluation will be used to revise the communication plan before the second wave occurs in order to guide future actions. This exercise will also be part of a larger evaluation report on the overall pandemic response effort.

18.11 Next Steps

Planning for an influenza pandemic will continue to evolve as the province provides additional guidelines/directives and as new information becomes available. The next planning steps regarding communications include:

- Formalize the Communications Control Group (members, etc.).
- Continue to assess communication needs before, during and after a pandemic. Revise Waterloo Region's pandemic-specific communications strategy as new information becomes available or new materials are developed.

- Assist Region of Waterloo Public Health as they develop a strategy to inform the public about the response tools and guidelines outlined in the CIPP, and pandemic planning and preparedness in Waterloo Region.
- In cooperation with Region of Waterloo Public Health, formalize the general information line strategy and secure the necessary infrastructure. Ensure the information line can be operational on short notice.

APPENDICES

APPENDIX 1

Declaration of Emergency Form

Municipality: _____ *(print)*

I, _____ hereby declare a state of
(Regional Chair, Mayor or Elected Head of Council or CAO)

local Emergency in accordance with the Emergency Management and Civil Protection Act,
R.S.O. 1990, c E.9 s.4.(1) due to the emergency described herein: *(nature of emergency)*

for an Emergency Area or part thereof described as: *(geographic boundary)*

Signed: _____

Title: _____

Dated: _____ at _____ (time)

in the Municipality/First Nation of:

_____ .

(Note: Fax to EMO Duty Officer @ 416-314-0474)

APPENDIX 2

Termination of a Declared Emergency Form

Municipality: _____ *(print)*

I, _____ hereby declare a state of
(Regional Chair, Mayor or Elected Head of Council or CAO)

local Emergency terminated in accordance with the Emergency Management and Civil
Protection Act R.S.O. 1990, c E.9 s.4.(1) due to the emergency described herein: *(nature of
emergency)*

for an Emergency Area or part thereof described as: *(geographic boundary)*

Signed: _____

Title: _____

Dated: _____ at _____ (time)

in the Municipality/First Nation of:

_____.

(Note: Fax to EMO Duty Officer @ 416-314-0474)

APPENDIX 3

Potential Public Health Measures (by Planning Phase)

Potential Public Health Measure	Phases 1 - 3	Phase 4	Phase 5	Phase 6
Public information and education campaigns about pandemic preparedness and personal protective practices.				
Individual isolation of cases of influenza due to a novel virus.				
Quarantine of close (household) contacts of influenza cases due to novel virus. Note: <i>This is unlikely to occur in Canada.</i>				
Provide information to those who are ill about self care, access to antiviral treatment or advanced care.				
Community disease containment strategies (stay at home if ill, cough & respiratory etiquette etc).				
Limiting after-school activities, community sports, deferral of travel to affected areas.				
Closure of public and private schools (JK – 12) and daycares.				
Direct public and private sector to implement pandemic staffing plans.				
Reduce or discourage large elective public gatherings.				
Implement measure				
Consider implementing measures				

APPENDIX 4

Initial Facility Profile for Mass Immunization Clinic

Municipality	
<input type="checkbox"/> Cambridge <input type="checkbox"/> Kitchener <input type="checkbox"/> North Dumfries <input type="checkbox"/> Waterloo	<input type="checkbox"/> Wellesley <input type="checkbox"/> Wilmot <input type="checkbox"/> Woolwich
Facility Information	
Site Name: Site Owner/Operator:	Street Address: Postal Code: Phone Number:
Facility Details:	
<input type="checkbox"/> Educational institution (school, university) <input type="checkbox"/> Community Centre/Hall	<input type="checkbox"/> Church <input type="checkbox"/> Fire Hall
<input type="checkbox"/> Arena <input type="checkbox"/> Other: _____	
Is the facility wheelchair accessible? Are the washrooms accessible?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Is there an alarm system?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there onsite parking?	<input type="checkbox"/> Yes (# of spaces:____) <input type="checkbox"/> No
Number of rooms available onsite (with 15 clinic table capacity): _____	
Cost for using the facility: _____	
Please describe the size of other rooms: _____ _____	
Vaccine/Equipment Supply Needs:	
Is fridge storage available: <input type="checkbox"/> Yes (full) <input type="checkbox"/> Yes (mini) <input type="checkbox"/> No	
Are there electrical outlets in the larger rooms?	<input type="checkbox"/> Yes (# of outlets:____) <input type="checkbox"/> No
Does the facility have a backup generator?	<input type="checkbox"/> Yes (for _____ hours) <input type="checkbox"/> No
Is there a storage area for supplies?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Please describe the storage area (location with respect to clinic rooms, size, etc): _____ _____	

APPENDIX 6

Clinic Set-up and Design — Site Visit Check List

Needs for clinic set-up	Availability/ Suitability	Comments
Adequate ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Telephone access	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Janitorial staff – on site and available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Space for people to line up for reception/ screening area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Clinic reception/consent signing area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Line up area for immunization visually separate from immunizing area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Space for 15 - 20(more) nursing stations	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Tables and chairs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Vaccine preparation area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Post immunization supervision area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Visually separate area for post immunization supervision	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Recovery area for fainters or reactions	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Loading area for supplies	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Storage area for supplies	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Storage area able to be secured	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Secured storage area close to clinic area	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Private rest area for staff	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Secure area for personal belongings, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No	

***Please attach a map of clinic site design – for set – up purposes**

APPENDIX 7

“Clinic in a Box” — Mass Immunization Supply List for 2000 Individuals*

Small Tote (Immunization Supplies)

Equipment /Supply	Quantity Required	Included	
Laerdal Mask	5	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Blood pressure cuffs (adult)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Blood pressure cuffs (children)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Stethoscopes	5	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Screening questionnaires (laminated, one per table)	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Epinephrine kits (alcohol swab, syringe and needle)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Communications binder	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Coordinator binder (to include anaphylactic fact sheet on dosage, medical directives, etc.)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Adverse reaction reporting forms	250	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Incident report forms	100	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Moisturizing hand cream (100ml containers)	12	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Small Tote (Clerical Supplies)

Equipment /Supply	Quantity Required	Included	
Pens (blue/black) and Pencils	30 ea	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Highlighters	5	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Permanent black marker	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Masking tape (rolls)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Paper towels	10	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Scissors	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Tape	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Clipboards	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Staplers	5	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Staples (5000/box)	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
File boxes (for signed consents)	10	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Flip chart or white board	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cell phones per clinic	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Landline at site	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Large Tote

Equipment /Supply	Quantity Required	Included	
3cc syringes with 25 G. 1 inch –needle (current supplier has attached needles) (100 per box)	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1 cc syringe (TB) (ped use) (100 per box)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
25 G 5/8" needles (ped use) (100 per box)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
25 G 1" needles (100 per box)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
18 -20 G 1" needles (100 per box)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Alcohol swabs/preps (200 per box)	15	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Gloves (vinyl) (100 per box)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Gloves – medium size (latex) (100 per box)	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Alcohol hand sanitizers 100ml bottles	25	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absorbent paper table cover (48" X 36")	25	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Yellow/white garbage bags	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cotton balls (2000 per bag)	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Large green garbage bags (10 bags/box)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Garbage bins (if not provided by site)	15	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Band-Aids (100 per box)	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Facial tissue (mini-wipes or 80 per box)	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Immunization consents and records	2300	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Biohazard sharps containers	30	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mats (if not provided by site)	5	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Fact sheets and promotion material for waiting area and recovery area	2300	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Surgical/Procedure masks	5 to 8	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Tables	20	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Chairs	150	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Vaccine supplies (diluent, etc.)		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Flu vaccine vials (9/10 doses per vial)	230	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Ice packs and covers	25	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cooler bags	25	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Juice boxes (pack of 10)	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Antiseptic wash solution/bleach spray bottles for washing tables	10	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Fact sheets (English)	2300	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Fact sheets (other languages)	300	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Translated contra-indication	300	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Signage for directions — placed in various locations on site	4 to 5	<input type="checkbox"/> Yes	<input type="checkbox"/> No

* Quantities and information subject to change based on suppliers and further review as details become known.

APPENDIX 8

Proposed Mass Immunization Clinic Staffing Plan

Position	Station	# of staff required	Function	Responsibility/Experience Training/Skill set
Site Manager	On site at clinic	1	Oversees administrative aspects of clinic – media management	Liaison with ICS/Clinic Management/ Administration
Clinical Leader	Clinical area	1	Oversees clinical aspects and running of clinic – resource person	Nursing / medical
Nurse Coordinator	Clinical area	1	Oversees nursing staff assigned – staff rotation, breaks	Nursing / medical
Security Coordinator	Clinical area	1	Oversees personnel assigned to security activities – public order and safety	Crowd control, traffic control,
Volunteer Coordinator	Clinical area	1	Oversees volunteer activity at the clinic site	Communication/language skills, public relations
Greeter/Screeners	Line up and waiting area of clinic	3	Greet and enquire about the presence of current symptoms – provide information forms - route to proper area	Communication/language skills, public relations
Registration Staff	Entrance area	3	Confirm eligibility and provide information forms and consents as needed	Communication/language skills, public relations
Health Screener	Triage area	3	Screen for medical/infectious process and assess for contraindications - route to appropriate area	Nursing/paramedical students

Position	Station	# of staff required	Function	Responsibility/Experience Training/Skill set
Clinical Team Leaders	Clinical area	2	Ensures clinic is running smoothly, available for trouble shooting and answering questions	Nursing / medical
Immunization Assistants	Immunization area	2	Assist nursing/vaccine administrator with aspects of pre – and – post immunization (injection site location, removal of clothing)	Communication/language skills, public relations
Immunization Preparation/ Drawing Up	Vaccine preparation area	3	Prepare immunizations and maintain cold chain to nursing/vaccine administrators	Nursing / medical
Vaccine Administrators	Vaccine administration area	15	Administration of immunization, record keeping and sign off of consents	Nursing /medical
Data Forms Collector	Vaccine administration area	1	Collect immunization record forms and verify that forms are filled out properly and completely	Clerical skills (including computer skills) confidentiality agreement
Clinic Traffic Flow Staff	Vaccine administration area	1	Direct vaccine recipients through clinic flow process and monitor clinic flow, work with security, if situations arise	Communication/language skills, public relations
Security Staff (at entrance and registration)	Parking lot and entrance and in vaccine administration area	2	Ensure an orderly flow of traffic and parking at the clinic site and maintain orderly movement of vaccine recipients through clinic process, provide security of medication/clinic supplies – protection of site, fire, safety, theft	Trained in building safety and security

Position	Station	# of staff required	Function	Responsibility/Experience Training/Skill set
Emergency Medical Personnel	On site during clinic operation – recovery area	1	Respond to medical emergencies including reactions ranging from serious anaphylactic shock to minor medical emergencies that are unrelated to vaccine administration	Physician/medical
Runners	Clinic area	1	Assist with communication between all functions of clinical set up – etc. bring supplies to vaccine administrators	Communication/language skills, public relations
Housekeeping/ Cleaning staff	On site	1	Maintain clean, antiseptic environment	Basic infection control knowledge
Other Personnel	On site	3	Help with clinic flow, and crowd management, child care area, interpretation of forms and information, food preparation, checking forms, traffic flow, etc.	Communication/language skills, public relations

APPENDIX 9

Mass Immunization Clinic Operational Details

Coordination of Supplies

Staff will be required to assist with packing supplies and equipment for daily transportation to clinic sites. When supplies are returned, staff, will be required to unload clinic materials and restock supplies and equipment for the following clinic site.

For further detailed information on staffing roles, please see Appendix below.

Clinic Operations

Clinic locations will ideally be customized to allow the flow and movement of people through the clinical area in a continuous free flowing manner. Ideally locations will have separate entrances and exits.

Infection Prevention and Control/ Bio-Hazardous Waste Disposal

Because of the numbers of people at immunization clinics, special attention to infection control will be required. All individuals will be asked to use alcohol based sanitizer before proceeding into the clinic. Staff at immunization stations will use alcohol-based hand sanitizer between each immunization. All surfaces will be cleaned with an appropriate disinfectant when visibly soiled and after each clinic. Routine precautions are used as a general principle, at all clinic sites and will be enhanced during the pandemic as required and recommended.

Clinic staff will be trained and advised regarding RoWPH policy and procedures on appropriate infection control measures and the handling and disposal of clinic bio-hazardous waste materials, including sharps. RoWPH will follow all legislated health and safety regulations to ensure staff and volunteer safety.

Clinic Flow Pattern and Immunization Clinic Set Up

Road and Parking Lot

The entrance to a site will be clearly marked with signage for entrance and exit points. Traffic control and management in the parking lot will be planned with appropriate security, based on current pandemic events. Clear signage will be posted in parking lot areas and at entrance doors so that those who are ill can self identify and exclusion can occur easily. Another strategy might include screening people in the parking lot, in their vehicles and directing them to local Flu Centres if they are ill.

A written synopsis of expected clinic set up and flow is as follows:

Entrance/Initial Contact/Reception Area

Upon entrance to the clinic, greeters will direct individuals to registration tables and provide pandemic vaccine information. At the registration area, once eligibility for immunization is confirmed, consent forms and direction will be provided. Clients who present with overt signs of

illness will be screened and immediately separated into another area for a more in depth assessment, evaluation and appropriate redirection.

Waiting Area/Triage Area

After registration, individuals will proceed to a waiting or holding area where vaccine information can be read and consent form completed prior to proceeding to the immunization line up. A nurse or designate will be available in this area for any individuals having questions or concerns about the immunization. While awaiting immunization, individuals will be assisted to prepare for their immunization.

Immunization Stations

Immunization stations will be set up away from the general public flow of clients and each station will be identified by a clearly visible number. A volunteer will direct clients to immunization stations as they become available. At the immunization stations, nurses or designates will screen individuals for contraindications, address final concerns and ensure informed consent. The vaccine will be administered, final information and instructions provided, and documentation completed.

Post Immunization Waiting Area/Recovery Area

Clients will be directed to remain in this area for approximately 15 minutes after receiving their immunization to monitor for any unexpected adverse reactions. Qualified staff will monitor the flow of clients through this area and be available for emergency intervention as needed. Any clients showing signs of adverse reactions will be moved to a private, first aid area close to an exit for easy access in case of emergency evacuation. First aid equipment and an anaphylaxis kit will be easily accessible.

Data Collection and Sorting Area

Staff will collect consent forms and gather data for collating, counting and completing required reports and statistics for local and provincial authorities. This area will be located near the immunization area and will link with the registration area. Current information and technology systems will be utilized and will be the key to data management and collection efficiency. The ROWPH will keep updated with regional and provincial data management systems as they are developed.

Education for Staff/ Training Manual

Current plans for staff training and education involves yearly participation of Registered Nurses employed at RoWPH in mass immunization clinics. This provides for a yearly updating of immunization skills as well as anaphylaxis response.

A influenza training manual is available for mass immunization clinics and can be adapted for mass clinics in a pandemic. RoWPH will be responsible for the training of any designated staff required in this RoWPH mass immunization plan.

Documentation

The consent form will become the client record for the purposes of documentation related to mass immunization administration. Documentation will be in accordance with legislative and College of Nursing Standards' requirements. Additional documentation of information will be added to the back of the consent form as needed. If additional note pages are required, these will be identified with the client's personal information and stapled to the consent form. Personal information collected under the appropriate legislative requirements and standards include:

- First name, surname and date of birth;
- Address and telephone number.

Nursing documentation will include:

- Relevant information that was collected during the screening process;
- Name of vaccine;
- Date vaccine administered;
- Route of injection and dosage;
- Site of injection;
- Vaccine lot number and manufacturer;
- Signature and professional status of nurse who administered the vaccine;
- Any unexpected response to the vaccine;
- Withheld vaccine and rationale, or documentation if a second injection required due to aspiration of blood or client movement during administration; and,
- Any unexpected incidents.

Individuals will be given a record of the immunization they received and advised that this will be their certificate of immunization and may be required for workplace and other possible "proof of immunization" requirements (i.e. for second dose).

The province is developing guidelines for a vaccination consent form and those guidelines will be incorporated into the local development of a consent form for use during pandemic influenza immunization clinics.

Logistical Management and Reporting of Statistics

Information and Technology

An efficient information technology infrastructure will be integral to timely management of high patient volumes in mass immunization clinics. The RoWPH currently utilizes the following provincial databases: Immunization Record Information System, iPHIS, and the Biological Inventory and Order System (BIOS). Planning for enhancement to current information technology systems to increase efficiency of recording and data management related to mass immunization is ongoing at MOHLTC. ROWPH will continue to update and enhance IT infrastructure to keep current with provincial and local data management needs.

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

APPENDIX 10: Primary Assessment Record – Adult

Notice to Health Care Practitioner: This patient may have pandemic influenza!

Use droplet precautions
 (hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).

Patient (first name, last name) please print:	Date (dd/mm/yy) //	Time (hh : mm) :
---	-----------------------	---------------------

Section 1 – Personal History & Self-Assessment

Check all symptoms that apply below and give dates when symptoms started.

a.	General	When? (dd/mm/yyyy)	c.	Digestive	When? (dd/mm/yyyy)
	<input type="checkbox"/> Fever (>38°C)	/ /		<input type="checkbox"/> Vomiting	/ /
	<input type="checkbox"/> Chills	/ /		<input type="checkbox"/> Diarrhea	/ /
	<input type="checkbox"/> Headache	/ /		<input type="checkbox"/> Abdominal pain	/ /
	<input type="checkbox"/> Aching muscles, joints	/ /	d.	Neurological	When? (dd/mm/yyyy)
	<input type="checkbox"/> Stiffness	/ /		<input type="checkbox"/> Confusion, drowsiness	/ /
	<input type="checkbox"/> Weakness	/ /		<input type="checkbox"/> Convulsions	/ /
	<input type="checkbox"/> Red and/or watery eyes	/ /	e.	Contact	When? (dd/mm/yyyy)
	<input type="checkbox"/> Earache	/ /		Have you had contact with someone with similar symptoms?	/ /
b.	Respiratory	When? (dd/mm/yyyy)		<input type="checkbox"/> yes <input type="checkbox"/> no	
	<input type="checkbox"/> Cough	/ /			
	<input type="checkbox"/> Sore throat	/ /			
	<input type="checkbox"/> Hoarseness	/ /			
	<input type="checkbox"/> Stuffy or runny nose	/ /			
	<input type="checkbox"/> Shortness of breath	/ /			
	<input type="checkbox"/> Chest pain when taking a deep breath	/ /			

If patient has checked any symptoms in sections "a" or "b," continue with assessment.
If patient has checked symptoms in all sections, continue with assessment.
If patient has checked symptoms only in sections "c" or "d," consider discharging patient with self-care materials and recommend they visit their health care provider for further medical advice regarding their non-influenza condition.



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 2 – Allergies

1.	Reaction:
2.	Reaction:
3.	Reaction

Section 3 – Medications

Do you take any medication (*pills, inhalers, needles, etc*) on a regular basis?
 no yes (if you checked “yes,” please complete **the attached Medication List**)

Signature of Patient:	Date (<i>dd/mm/yyyy</i>): / /
If completed by someone other than patient: Name (<i>first name, last name</i>) please print _____ _____	Signature of friend or relative:
Relation to the patient: _____	



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 3 – Medications *continued* ...

1. Medical Allergies

I am allergic to the following medications:

2. Medications

Please list the medications you take, including the following: the dose, how often you take it, and how you have to take it (pill, injection, etc.).

Medication List

Drug (<i>medication name, dose, route, frequency</i>)	To be continued in hospital
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no

3. Signature of Patient or person completing this form

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 4 – Nurse (or Designate) Assessment (Flu Centre)

Clinical Case Definition

- Documented fever > 38°C (100.4°F).
- Acute onset of sore throat, cough, and/or shortness of breath.
- Presence of influenza circulating in the community OR (for avian influenza A) history of contact with poultry or domestic birds, or a known or suspected patient with avian influenza A in an affected country, within 10 days of symptom onset.
- *NOTE: Case definitions will need to be updated regularly as outbreaks of pandemic influenza are identified. Moreover, the criteria specific to bird flu will not likely be relevant once the pandemic has been declared.*

Heart Rate: _____ /min	Is HR > 100/min?	<input type="checkbox"/> yes <input type="checkbox"/> no
Resp Rate: _____ /min	Is RR > 24/min?	<input type="checkbox"/> yes <input type="checkbox"/> no
Blood Pressure ____ / ____ mmHg	Is systolic BP < 100 mmHg?	<input type="checkbox"/> yes <input type="checkbox"/> no
Temperature: _____ °C	T>38°C?	<input type="checkbox"/> yes <input type="checkbox"/> no
SpO2: _____ %	Is SpO2 = 90%?	<input type="checkbox"/> yes <input type="checkbox"/> no
Mucous Membranes:	Are lips/nail beds cyanotic?	<input type="checkbox"/> yes <input type="checkbox"/> no
Chest auscultation:	Are crackles present?	<input type="checkbox"/> yes <input type="checkbox"/> no
Mental status:	Is patient confused?	<input type="checkbox"/> yes <input type="checkbox"/> no
Chest pain:	Does patient have chest pain?	<input type="checkbox"/> yes <input type="checkbox"/> no
Vomiting:	Is patient vomiting > 3x's/24h?	<input type="checkbox"/> yes <input type="checkbox"/> no

If all “no” boxes are checked, go to Section 6. ←

If any “yes” boxes are checked, go to Section 5a. ←



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Patient (*first name, last name*) **please print**

Section 5a – Assessment for High Risk Criteria

Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Age > 65 years | <input type="checkbox"/> Pregnancy |
| <input type="checkbox"/> Chronic lung disease | <input type="checkbox"/> Chronic heart disease |
| <input type="checkbox"/> Liver disease | <input type="checkbox"/> Medications to lower blood pressure, thin blood |
| <input type="checkbox"/> Renal failure/dialysis | <input type="checkbox"/> Immunosuppression |
| <input type="checkbox"/> Serious blood disorder | <input type="checkbox"/> Diabetes |
| <input type="checkbox"/> Living in a group home | <input type="checkbox"/> Living alone |

(*Note: Advanced age [>65] should be a consideration for admission, but not an absolute criterion.)

↳ If any boxes are checked, consider transport and admission to Convalescent Care Centre and/or provision of antibiotics/antivirals (see Section 6 – Discharge).

Section 5b – Assessment for Transfer to Acute Care Facility

If patient meets any of the following criteria, apply oxygen to maintain a SpO2 > 90%, notify on-site MD (or designate) immediately, and consider immediate transfer to acute care facility (*check all that apply*):

- | | | |
|--|--|---|
| <input type="checkbox"/> SpO2 = 90% | <input type="checkbox"/> Inability to protect airway | <input type="checkbox"/> RR > 30/min |
| <input type="checkbox"/> Clinical evidence of severe respiratory distress or impending respiratory failure | <input type="checkbox"/> Systolic BP < 90mmHg | <input type="checkbox"/> HR < 40/min or > 120/min |

Assessor's (*first name, last name*) **please print**

Assessor's Designation

Assessor's signature



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Patient (*first name, last name*) **please print**

Section 6 – Discharge

	Discharge date (dd/mm/yyyy)	Discharge time (hh : mm)
<input type="checkbox"/> Self-care instructions provided and reviewed		:
<input type="checkbox"/> Discharge instruction sheet provided and reviewed	/ /	:
<input type="checkbox"/> Discharge to Convalescent Care Centre; Prescription(s) provided (if necessary – see Section 7: “Orders”)	/ /	:
<input type="checkbox"/> Discharge to acute care facility for Secondary Assessment:	/ /	
<input type="checkbox"/> Transfer arranged	/ /	:
<input type="checkbox"/> PAR sent with patient	/ /	:
<input type="checkbox"/> Diagnostic testing ordered (see Section 7)	/ /	:
<input type="checkbox"/> Prescription(s) ordered (see Section 7)	/ /	:

Assessor’s (<i>first name, last name</i>) please print	Assessor’s Designation
---	------------------------

Assessor’s signature



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Patient (first name, last name) please print

Section 7 – Recommended Orders

Cross out and initial order not indicated; place in boxes as appropriate.

1. DAT or _____

2. AAT or _____

3. Recommended Investigations at an Acute Care Facility (NO ROUTINE BLOOD WORK REQUIRED):

- Blood C+S
- CBC, electrolytes, BUN, Serum Cr, blood glucose; Day 3 repeat CBC
- CBG/ABG
- Nasopharyngeal swab for virology (if considering non-influenza co-morbidity)
- Chest x-ray (if clinically necessary)
- Other: _____

4. Recommended Standard Orders at an Acute Care Facility:

- Cardiac monitor
- Vital signs and temp q4h
- Consult Physiotherapy
- O₂ to maintain sat ≥ 92%

5. Recommended IV Orders at an Acute Care Facility:

- saline lock
- IV D5/NS @ _____ cc/h
- Add _____ KCl/L after first void

6. Medication Orders:

Antivirals (if symptom onset ≤ 48 hrs):

- Oseltamivir 150 mg PO bid x 5 days (high dosage regime – severe case)
OR
- Oseltamivir 75 mg PO bid x 5 days
OR
- Zanamavir 10 mg (2 inhalations) bid x 5 days (recommended if CrCl < 10 ml/min, on dialysis, or if pregnant/breast feeding [WARNING: Not recommended for patients with asthma or COPD])



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 7 – Recommended Orders *continued...*

Antibiotics (*consider modified dosage adjustment if CrCl < 50 ml/min*)

Recent fluoroquinolone (last 3 months):

- PO Course: Cefuroxime 500mg PO bid x 10 days, plus Azithromycin 500mg PO x 1, then 250 mg PO od x 4 days
- IV Course: Cefuroxime 750mg IV Q8H x 10 days plus Azithromycin 500mg IV OD x 5 days

Recent macrolide or cephalosporin (last 3 months):

- PO Course: Levofloxacin 500 mg PO OD x 10 days
 - IV Course: Levofloxacin 500 mg IV OD x 10 days (if patient has evidence of pneumonia)
- (IV antibiotics necessary only if patients cannot take oral antibiotics.)*

Other Medications:

- | | |
|---|--|
| <input type="checkbox"/> Salbutamol 2-4 puffs MDI Q6H and Q30 minutes prn with spacer | <input type="checkbox"/> Acetaminophen 325-650 mg PO/PR Q4H prn fever/pain |
| <input type="checkbox"/> Salbutamol 5.0 mg via neb Q6H and Q30 minutes prn | <input type="checkbox"/> Heparin 5000U SC Q12H (if non-ambulatory); discontinue when actively mobilizing |
| <input type="checkbox"/> Ipratropium 2 puffs MDI Q6H with spacer | <input type="checkbox"/> Bowel Protocol |
| <input type="checkbox"/> Ipratropium 0.50 mg via neb Q6H | |
| <input type="checkbox"/> Dimenhydrinate 50 mg PO/IM/IV q4h prn for nausea | |

Additional Orders

Physician (or designate) Signature:	Date: / /	Time: :
-------------------------------------	-------------------	------------



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

APPENDIX 11: Primary Assessment Record – Paediatrics

Notice to Health Care Practitioner: This patient may have pandemic influenza!
Use droplet precautions
 (hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).

Patient (first name, last name) please print:	Date (dd/mm/yy) / /	Time (hh : mm) :
---	------------------------	---------------------

Section 1 – Personal History & Self-Assessment

Check all symptoms that apply below and give dates when symptoms started for your child.

a.	General	When? (dd/mm/yyyy)	c.	Digestive	When? (dd/mm/yyyy)
	<input type="checkbox"/> Fever (>38°C)	/ /		<input type="checkbox"/> Vomiting	/ /
	<input type="checkbox"/> Chills	/ /		<input type="checkbox"/> Diarrhea	/ /
	<input type="checkbox"/> Headache	/ /		<input type="checkbox"/> Abdominal pain	/ /
	<input type="checkbox"/> Aching muscles, joints	/ /	d.	Neurological	When? (dd/mm/yyyy)
	<input type="checkbox"/> Stiffness	/ /		<input type="checkbox"/> Confusion, drowsiness	/ /
	<input type="checkbox"/> Weakness	/ /		<input type="checkbox"/> Convulsions	/ /
	<input type="checkbox"/> Red and/or watery eyes	/ /	e.	Contact	When? (dd/mm/yyyy)
	<input type="checkbox"/> Earache	/ /		Has your child had contact with someone with similar symptoms?	/ /
b.	Respiratory	When? (dd/mm/yyyy)		<input type="checkbox"/> yes <input type="checkbox"/> no	
	<input type="checkbox"/> Cough	/ /			
	<input type="checkbox"/> Sore throat	/ /			
	<input type="checkbox"/> Hoarseness	/ /			
	<input type="checkbox"/> Stuffy or runny nose	/ /			
	<input type="checkbox"/> Difficulty breathing	/ /			
	<input type="checkbox"/> Chest pain when taking a deep breath	/ /			

*If parent/guardian of patient has checked any symptoms in sections “a” or “b,” continue with assessment.
 If parent/guardian of patient has checked symptoms in all sections, continue with assessment.
 If parent/guardian of patient has checked symptoms only in sections “c” or “d,” consider discharging patient with self-care materials and recommend they visit their health care provider for further medical advice*



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

regarding their non-influenza condition.

Section 2 – Allergies (please list your child’s allergies)

- | | |
|----|-----------|
| 1. | Reaction: |
| 2. | Reaction: |
| 3. | Reaction: |

Section 3 – Medications

Does your child take any medication (*pills, inhalers, needles, etc*) on a regular basis?
 no yes (if you checked “yes” for your child, please complete **the attached Medication List**)

Signature of patient’s legal guardian:	Date (<i>dd/mm/yyyy</i>): / /
--	---

Relation to the patient: _____	
-----------------------------------	--



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 3 – Medications *continued* ...

1. Medical Allergies

Your child is allergic to the following medications:

2. Medications

Please list the medications your child takes, including the following information: the dose, how often you take it, and how you have to take it (pill, injection, etc.).

Medication List

Drug (<i>medication name, dose, route, frequency</i>)	To be continued in hospital
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> yes <input type="checkbox"/> no

3. Signature of Patient’s Legal Guardian:

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Section 4 – Nurse (or Designate) Assessment (Flu Centre)

Clinical Case Definition

- Documented fever > 38°C (100.4°F).
- Acute onset of sore throat, cough, and/or difficulty breathing.
- Presence of influenza circulating in the community OR (for avian influenza A) history of contact with poultry or domestic birds, or a known or suspected patient with avian influenza A in an affected country, within 10 days of symptom onset.
- *NOTE: Case definitions will need to be updated regularly as outbreaks of pandemic influenza are identified. Moreover, the criteria specific to bird flu will not likely be relevant once the pandemic has been declared.*

Heart Rate: _____ /min	Is HR > 100/min?	<input type="checkbox"/> yes <input type="checkbox"/> no
Resp Rate: _____ /min	Is RR > 24/min?	<input type="checkbox"/> yes <input type="checkbox"/> no
Blood Pressure ____ / ____ mmHg	Is systolic BP < 100 mmHg?	<input type="checkbox"/> yes <input type="checkbox"/> no
Temperature: _____ °C	T>38°C?	<input type="checkbox"/> yes <input type="checkbox"/> no
SpO ₂ : _____ %	Is SpO ₂ = 90%?	<input type="checkbox"/> yes <input type="checkbox"/> no
Mucous membranes:	Are lips/nail beds cyanotic?	<input type="checkbox"/> yes <input type="checkbox"/> no
Chest auscultation:	Are crackles present?	<input type="checkbox"/> yes <input type="checkbox"/> no
Mental status:	Is patient confused?	<input type="checkbox"/> yes <input type="checkbox"/> no
Chest pain:	Does patient have chest pain?	<input type="checkbox"/> yes <input type="checkbox"/> no
Vomiting:	Is patient vomiting > 3x's/24h?	<input type="checkbox"/> yes <input type="checkbox"/> no
Decreased urine output:	No urine output in last 8 hours	<input type="checkbox"/> yes <input type="checkbox"/> no

If all “no” boxes are checked, go to Section 6. ←

If any “yes” boxes are checked, go to Section 5a. ←



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Patient (*first name, last name*) **please print**

Section 5a – Assessment for High Risk Criteria

Check all that apply.

- Patient born prematurely
- Chronic lung disease
- Weakened immune system
- Other pertinent information: _____
- Chronic heart disease
- Previous surgeries or previously hospitalized

↳ If any boxes are checked, consider transport and admission to acute care facility and/or provision of antibiotics/antivirals (see Section 6 – Discharge).

Section 5b – Assessment for Transfer to Acute Care Facility

If patient meets any of the following criteria, notify on-site MD (or designate) immediately, and consider immediate transfer to acute care facility (*check all that apply*):

- Respiratory distress/cyanosis (O₂ sat ≤ 91%)
- Severe dehydration
- Pneumonia (CXR confirmed – if applicable)
- Hypotension
- Bulging fontanelle
- Apneic spells
- Seizures
- Alt. level of consciousness
- Signs of septicemia

Assessor's (*first name, last name*) **please print**

Assessor's Designation

Assessor's signature



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Patient (*first name, last name*) **please print**

Section 6 – Discharge

	Discharge date (dd/mm/yyyy)	Discharge time (hh : mm)
<input type="checkbox"/> Self-care instructions provided to guardian and reviewed	/ /	: :
<input type="checkbox"/> Discharge instruction sheet provided to guardian and reviewed	/ /	: :
<input type="checkbox"/> Discharge to acute care facility for Secondary Assessment:	/ /	: :
<input type="checkbox"/> Transfer arranged	/ /	: :
<input type="checkbox"/> PAR sent with patient and guardian	/ /	: :
<input type="checkbox"/> Diagnostic testing ordered (see Section 7)	/ /	: :
<input type="checkbox"/> Prescription(s) ordered (see Section 7)	/ /	: :

Assessor's (<i>first name, last name</i>) please print	Assessor's Designation
---	------------------------

Assessor's signature



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Patient (*first name, last name*) **please print**

Section 7 – Recommended Orders

Cross out and initial order not indicated; place in boxes as appropriate.

7. DAT or _____

8. AAT or _____

9. Recommended Investigations at an Acute Care Facility (*no routine blood work required*):

- Blood C+S
- CBC, electrolytes, BUN, Serum Cr, blood glucose; Day 3 repeat CBC
- CBG/ABG
- Nasopharyngeal swab for virology (if considering non-influenza co-morbidity)
- Chest x-ray (if clinically necessary)
- Other: _____

10. Recommended Standard Orders at an Acute Care Facility:

- Cardiac monitor
- Vital signs and temp q4h
- Consult Physiotherapy
- O₂ to maintain sat \geq 92%

11. Recommended IV Orders at an Acute Care Facility:

- saline lock
- IV D5/NS @ _____ cc/h
- Add _____ KCl/L after first void

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Section 7 – Orders *continued...*

12. Medication Orders:

Antivirals (if symptom onset < 48 hrs):

Oseltamivir (if > 1yr)

- (<15 kg) 30 mg PO BID x 5 days
- (15-22 kg) 45 mg PO BID x 5 days
- (34-40 kg) 60 mg PO BID x 5 days
- (>40 kg) 75 mg PO BID x 5 days

IV Antibiotics

Neonate:

- Ampicillin _____ (200 mg/kg/day, divided by q6h) q6h x 10 days (adjust for newborns ≤ 7 days old)
- Gentamicin _____ (2.5 mg/kg/dose) q8h x 10 days (adjust for kidney disease or for newborns ≤ 7 days old)

1-3 Months:

- Cefuroxime _____ (100 mg/kg/day, divided by q6h) q6h x 10 days
- +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days

3 months – 5 years:

- Cefuroxime _____ (100 mg/kg/day, divided by q6h) q6h x 10 days
- +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days

> 5 years:

- Cefuroxime _____ (100 mg/kg/day, divided by q8h) q8h x 10 days

OR

- Ampicillin _____ (100-200 mg/kg/day, divided by q6h) q6h x 10 days (max 10 g/day)
- +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days (max. 4 g/day)
- *Cephalosporin/Penicillin Allergy: Clindamycin _____ (25-40 mg/kd/day, divided by q6-8h) q__h x 10 days

APPENDIX 13

Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee Terms Of Reference

BACKGROUND

According to the Canadian Pandemic Influenza Plan (CPIP) and Ontario Health Plan for an Influenza Pandemic (OHPIP), local health authorities are responsible for coordinating the local response to an influenza pandemic. Given the direction provided by senior levels of government, Region of Waterloo Public Health, in consultation with its community stakeholders, is completing a local plan — the *Community Pandemic Influenza Preparedness Plan* (CPIPP). The CPIPP will serve as the Waterloo Region's response and recovery plan in the event of an influenza pandemic. The CPIPP is being developed by a Steering Committee with Region of Waterloo and community representatives.

Since May 2006, over 105 individuals from over 55 organizations have served as members of committees (Working Groups) that have been developing the tools and guidelines that will be used by individuals and organizations involved in Waterloo Region's influenza pandemic response and recovery effort. The final CPIPP will be comprised of these tools and guidelines.

One Working Group, the Community Health Services Sub-group (CHSSG), developed general principles for Influenza Assessment, Treatment and Referral Centres (Flu Centres) and Convalescent Care Centres. The principles outline the purpose of these centres and the services that will be provided. The CHSSG decided that it did not have the authority to finalize details pertaining to the site selection and management of Flu and Convalescent Care Centres; however, the members developed several recommendations for the Steering Committee to consider.

To build on the work completed by the CHSSG and recent guidelines published by the Ministry of Health and Long-Term Care, Region of Waterloo Public Health and the CPIPP Steering Committee is establishing an Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee (Advisory Committee). This Advisory Committee will finalize all details related to Flu and Convalescent Care Centres.

While the Advisory Committee will work to finalize all details related to Flu and Convalescent Care Centres, it is recognized that there are barriers to implementation, and that the plan will not be fully operational until the Ministry of Health and Long-Term Care (MOHLTC) provides further direction on:

- Funding;
- Financial compensation for individuals that work in Flu and Convalescent Centres;
- Insurance (e.g. malpractice, personal liability); and,
- The use of medical directives and temporary licenses.

In the interim, the Advisory Committee will proceed with the planning effort to ensure this process moves forward. The Advisory Committee will also ensure its work is consistent with any directives provided by the MOHLTC.

It is anticipated that members may change over time. Senior managers from various organizations will make decisions related to site selection and management. Once these

decisions are made and the Advisory Committee begins to work on operational details, membership of the committee may be altered.

OBJECTIVE

To oversee the development of a plan for the implementation and operation of Influenza Assessment, Treatment and Referral Centres (Flu Centres) and Convalescent Care Centres for Waterloo Region.

RESPONSIBILITIES

- Finalize how many Flu Centres and Convalescent Care Centres are required, and where these centres should be located.
- Determine which organization(s) will be responsible for the operation of each centre.
- Develop a management structure for Flu Centres and Convalescent Care Centres.
- Develop strategies or protocols (and operational details) related to the operation of Flu Centres and Convalescent Care Centres. This includes:
 - Human resources
 - Patient transfer (between acute settings, Flu Centres and Convalescent Care Centres)
 - Security
- Identify the critical equipment and supplies required to operate Flu Centres and Convalescent Care Centres. Identify potential sources of these materials, and if any should be stockpiled locally.
- Determine how vulnerable populations will access the Flu Centres and Convalescent Care Centres (e.g. develop a special triage system, use mobile response units)
- Ensure the proper linkages with the community support sector are established.
- Recommend potential trigger points for the activation and deactivation of Flu Centres and Convalescent Care Centres.
- Establish sub-groups (for planning purposes) when appropriate.
- Communicate progress to the Steering Committee and to the organizations which they represent.
- Review and update the Terms of Reference as required. Forward recommendations to the Steering Committee for consideration.

PRINCIPLES

To ensure a coordinated, effective and transparent planning, response and recovery effort, the Advisory Committee will adhere to the guiding principles outlined in the *Community Pandemic Influenza Preparedness Plan: Strategic Planning Guide and Operational Framework*:

- A Collaborative, Coordinated, and Flexible Plan for Response;
- Transparent Planning and Decision-Making Processes;
- Increased Surge Capacity in the Health Care Sector;
- Community Mobilization;
- Effective Public Education and Communication Strategies;
- Stakeholder Preparedness; and,
- Rationalization of Available Resources.

MEMBERS

Waterloo Region's Commissioner/Medical Officer of Health (or designate) will chair the Influenza Assessment, Treatment and Referral Centre and Convalescent Care Centre Advisory Committee.

The Director of Communicable Disease, Dental and Sexuality Resources for Region of Waterloo Public Health (or designate) will serve as vice-chair.

Representatives from the following organizations will serve as members of the committee:

- Cambridge Memorial Hospital
- Conestoga College
- Grand River Hospital
- Emergency Medical Services
- St. Mary's General Hospital
- Region of Waterloo Chief Administrator's Office
- Region of Waterloo Emergency Measures
- Region of Waterloo Public Health
- Region of Waterloo Social Services
- Region of Waterloo Transportation & Environmental Services
- University of Waterloo
- Waterloo Catholic District School Board
- Waterloo Region District School Board
- Waterloo Wellington Community Care Access Centre
- Wilfrid Laurier University

Ex officio members:

The Public Health staff member responsible for coordinating the CIPP planning process, in addition any consultant(s) hired to assist with completing the plan, will be ex officio members of the Advisory Committee.

Ad hoc members:

Ad hoc members are individuals that will be asked to participate when issues pertinent to their fields of expertise are discussed. Representatives from the following organizations may serve as ad hoc members of the Advisory Committee:

- Region of Waterloo Public Health Communicable Disease Control Program
- Region of Waterloo Public Health Immunization, Vaccine and Preventable Disease Program
- CIPP Equipment and Supplies Working Group
- CIPP Occupational Health & Safety and Human Resources Working Group
- Any other individual(s) deemed appropriate by the Steering Committee or Advisory Committee

STRUCTURE AND PROCESS

Meetings will be chaired by the Commissioner/Medical Officer of Health (or designate).

Region of Waterloo Public Health will be responsible for distributing the meeting agenda and minutes of the previous meeting at least two to three business days prior to each meeting.

Meetings will be held as required. The actual dates, times, and location will be determined by members on the Advisory Committee.

The Advisory Committee will operate on a basis of consensus. In some cases, members may reach rapid consensus on how to proceed. However, some issues may not lend themselves to early or easy consensus. Where consensus is not achieved, it is the responsibility of the Advisory Committee to work through the differences. When consensus cannot be achieved, a summary of all dissenting opinions and options should be compiled and forwarded to the Steering Committee for final review and comment.

TIMELINES AND DELIVERABLES

The Advisory Committee is responsible for developing a comprehensive plan that will aid in establishing Flu and Convalescent Care Centres during an influenza pandemic. All members will serve until this plan is finalized.

It is anticipated that initial details will be included in the CIPP release scheduled for Spring 2007. Operational details will be completed during the next planning phase (2007-2008).

ACCOUNTABILITY

The establishment of Flu and Convalescent Care Centres will be essential if the health care sector is to build surge capacity during an influenza pandemic. As a pandemic event will impact each community member, those involved in the planning, response and recovery efforts need to be mindful of their responsibility to prepare the best possible plan for the public. Each member will adhere to the Principles and Ethical Framework for Decision Making as outlined in the *Community Pandemic Influenza Preparedness Plan: Strategic Planning Guide and Operational Framework*.

All decisions, in addition to the overall plan or strategy developed by the Advisory Committee, will be subject to the approval of the CIPP Steering Committee.

Each member is accountable to the organizations they represent. Each community stakeholder that commits to providing resources during a pandemic will be required to approve the final CIPP and agree to the implementation strategy that is devised.

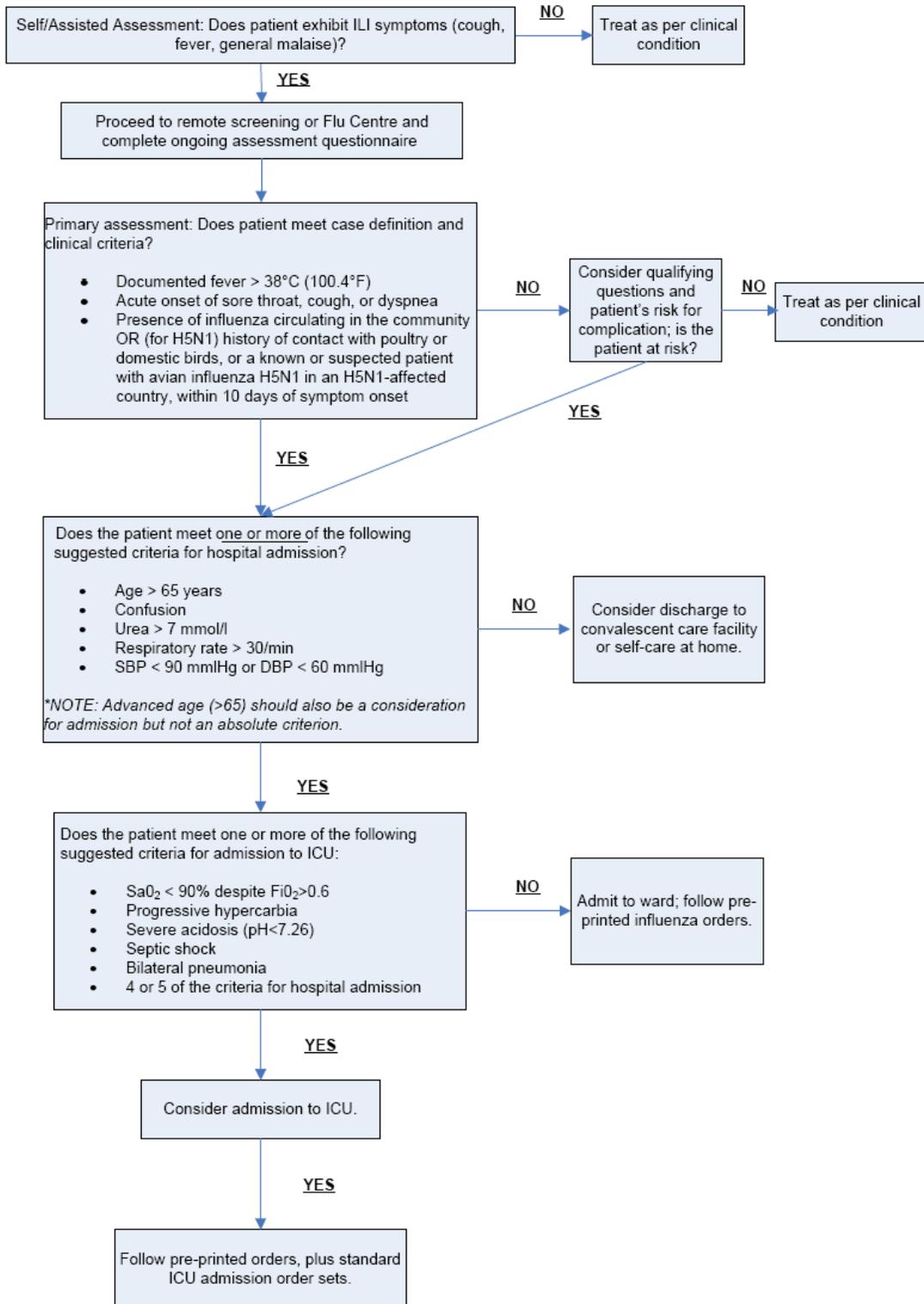
TERMS

The Advisory Committee will review this Terms of Reference upon completion of their work.

Date Approved: _____

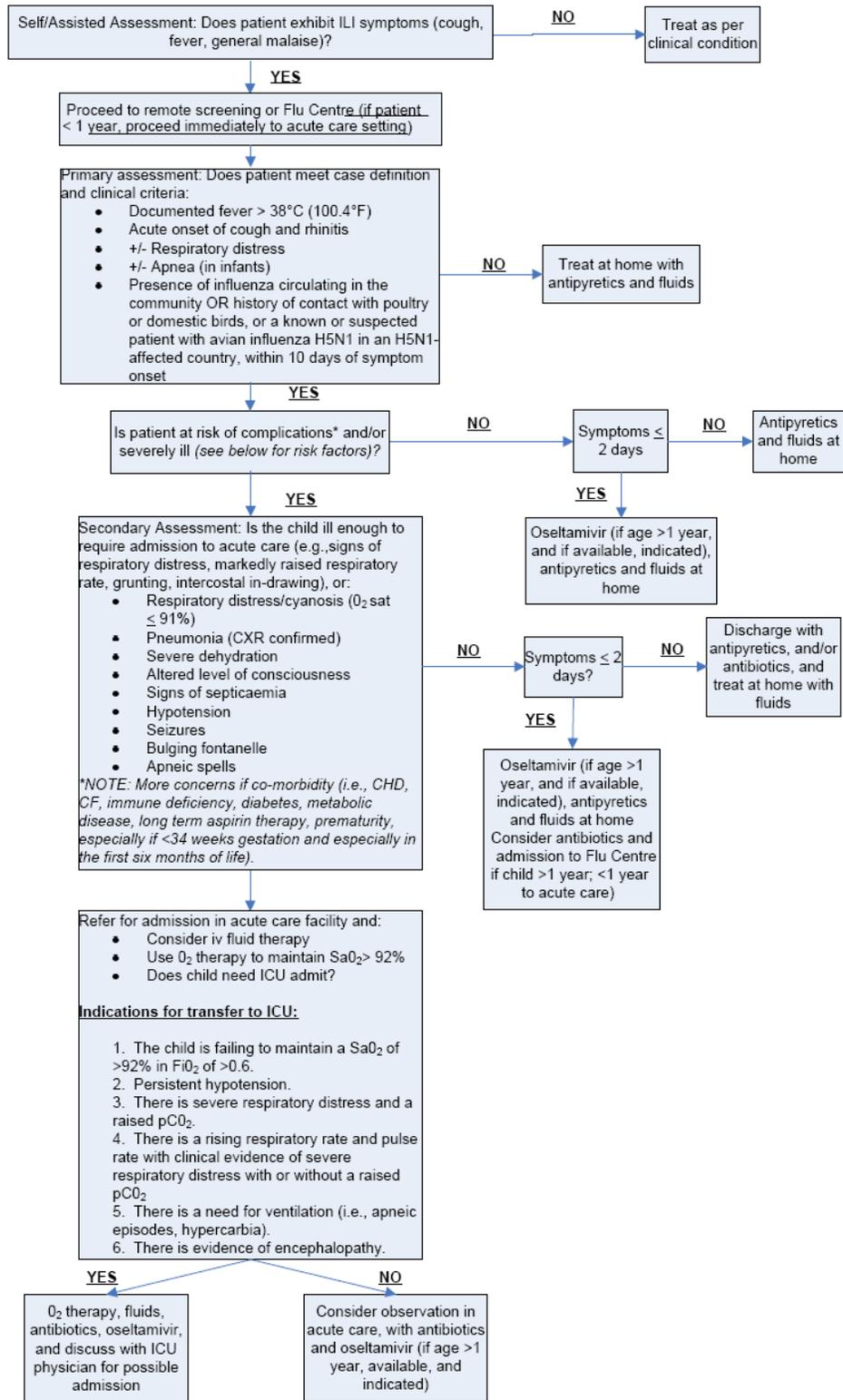
APPENDIX 14

WATERLOO REGION DISPOSITION ALGORITHM FOR ADULTS



APPENDIX 15

WATERLOO REGION DISPOSITION ALGORITHM FOR PAEDIATRICS





Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

APPENDIX 16: Acute Care Facility Adult Assessment Form

Notice to Health Care Practitioner: This patient may have pandemic influenza!
Use droplet precautions
 (hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).

Patient (<i>first name, last name</i>) please print:	Date (<i>dd/mm/yy</i>) / /	Time (<i>hh :mm</i>) :
--	---------------------------------	-----------------------------

1. Nurse (or designate) Assessment (Acute Care)

Allergies (please list, or see Primary Record Assessment):

Substance history:

- Smoking (_ pack/years)
 Consider nicotine patch

- Alcohol (beer, wine, or spirits) _____ (drinks/week)
 If > 14/wk or daily consumption consider alcohol withdrawal prophylaxis

- Non-prescription medications/drugs (list) _____

Medications (taken at home – see also Primary Record Assessment): <small>If further space is required see attached medication list appendix <input type="checkbox"/></small>	Order in hospital	Carried (time)	Initials
Drug (medication name, dose, route, frequency)			
Oseltamivir or Zanamivir (current prescription)	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Name of patient: _____
 Address: _____
 Date of birth: / / Age: _____
 MRN: _____
 Telephone: Home: () - Business: () -

Vital Signs:

		HH:MM								
Pulse	180									
	160									
	140									
	120									
	100									
	80									
	60									
	40									
	Resp.	35								
		30								
25										
20										
15										
5										
Blood Pressure	200									
	180									
	160									
	140									
	120									
	110									
	100									
	80									
	60									
	20									
SpO2	98									
	96									
	94									
	92									
	90									
	88									
Temp	°C									

Toxic Non-Toxic

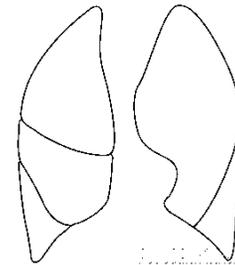
Weight: _____ (actual or estimate)

Initial Physical Exam (completed to the best of the assessor's abilities):

Head & Neck:

- Mucous membranes moist dry
 Conjunctiva pink pale
 Neck supple stiff/rigid nodes

Other findings of note: _____



Chest:

- Respiratory effort normal distressed
 Auscultation clear

= crackles = ↓ breath sounds
 = wheeze

Extremities:

Cyanosis: absent present Peripheral pulses: present absent Peripheral edema: absent present

CNS:

Level of consciousness: alert drowsy unresponsive Orientation: person place time

Skin:

Rash No Yes Describe: _____



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Criteria for Hospital Admission (one or more of the following):

- Age > 65 years*
- Confusion
- Urea > 7 mmol/l
- Respiratory rate > 30/min
- SBP < 90 mmHg or DBP < 60 mmHg

**NOTE: Advanced age (>65) should be a consideration for admission but not an absolute criterion.*

Disposition:

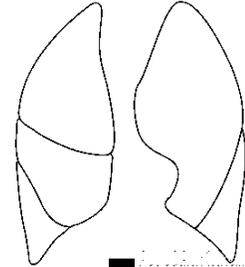
- Home & Self-Care Convalescent Care Facility Acute Care

Name of patient: _____
 Address: _____
 Date of birth: / / Age: _____
 MRN: _____
 Telephone: Home: () - Business: () -

2. MD (or Designate) Physical Exam and Assessment (Acute Care)

Head & Neck:

- Mucous membranes moist dry
 Conjunctiva pink pale
 Neck supple stiff/rigid nodes
 Other findings of note: _____



= crackles = ↓ breath sounds
 = wheeze

Chest:

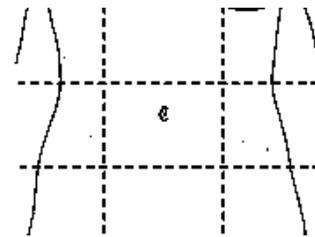
- Respiratory effort normal distressed
 Auscultation clear

CVS:

- JVP _____ cm above sternal angle.
 Heart Sounds: normal _____
 Murmur: _____ Bruits: _____

Abdomen:

- Bowel sounds normal _____
 Palpation soft guarding
 non-tender tender
 Organomegaly/mass _____



Extremities:

- Cyanosis: absent present Peripheral pulses: present absent Peripheral edema: absent present

CNS:

- | | | | |
|------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Level of consciousness | <input type="checkbox"/> alert | <input type="checkbox"/> drowsy | <input type="checkbox"/> unresponsive |
| Orientation | <input type="checkbox"/> person | <input type="checkbox"/> place | <input type="checkbox"/> time |
| Cranial nerves | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Reflexes | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Motor | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Sensation | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |

Skin:

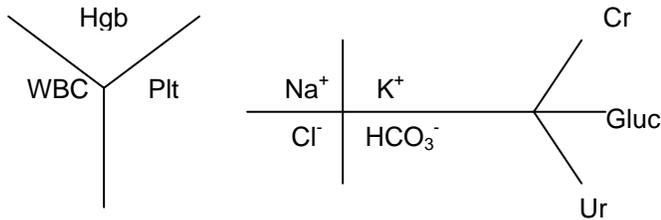
- Rash No Yes Describe: _____



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Laboratory Review:

normal abnormal see attached lab results



AST _____	LDH _____	CBG/ABG _____
ALT _____	CK _____	pH _____
ALP _____	amylase _____	PO2 _____
Tbili _____	Troponin _____	PCO2 _____
INR _____	PTT _____	HCO3 _____

Criteria for ICU Admission (one or more of the following):

- | | |
|--|--|
| <input type="checkbox"/> SaO2 < 90% despite FiO2 > 0.6 | <input type="checkbox"/> Septic shock |
| <input type="checkbox"/> Progressive hypercarbia | <input type="checkbox"/> Bilateral pneumonia |
| <input type="checkbox"/> Severe acidosis (pH < 7.26) | <input type="checkbox"/> 4 or 5 of the criteria for hospital admission |

Diagnosis:

INFLUENZA:	<input type="checkbox"/> Clinical	<input type="checkbox"/> Lab Defined	<input type="checkbox"/> Suspected
INFLUENZA (with Associated Pneumonia)	<input type="checkbox"/> Clinical	<input type="checkbox"/> X-RAY Confirmed	<input type="checkbox"/> Suspected
OTHER: _____			

Disposition:

Home & Self-Care Convalescent Care Facility Acute Care ICU

Reviewed By:	Designation:	Signature:
--------------	--------------	------------



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

APPENDIX 17: Acute Care Facility Paediatric Assessment Form

Notice to Health Care Practitioner: This patient may have pandemic influenza!
Use droplet precautions
 (hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).

1. Nurse (or designate) Assessment (Acute Care)

Allergies (please list, or see Primary Record Assessment):

- i. Drug: _____
- ii. Drug: _____
- iii. Drug: _____

Medication (taken at home – see also Primary Record Assessment: <i>If further space is required see attached medication list appendix</i> <input type="checkbox"/> Drug (medication name, dose, route, frequency)	Order in hospital	Carried (time)	Initials
Osetamivir or Zanamivir (current prescription)	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Vaccination history (up-to-date)? Comments: _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No

Name of patient: _____
 Address: _____
 Date of birth: / / Age: _____
 MRN: _____
 Telephone: Home: () - Business: () -

Vital Signs (record initial and follow-up):

		HH:MM							
Pulse	140								
	120								
	100								
	80								
	60								
	40								
	20								
Resp.	30								
	25								
	20								
	15								
	10								
	5								
Blood Pressure	200								
	180								
	160								
	140								
	120								
	110								
	100								
	80								
	60								
	40								
SpO2	98								
	96								
	94								
	92								
	92								
	90								
	88								
Temp	°C								

Toxic Non-Toxic

Weight: _____ (actual or estimate)

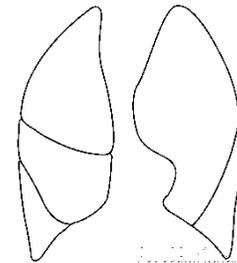
Initial Physical Exam (completed to the best of the assessor's abilities):

Head & Neck:

- Mucous membranes moist dry
 Conjunctiva pink pale
 Neck supple stiff/rigid nodes
 Other findings of note: _____

Chest:

- Respiratory effort normal distressed
 Auscultation clear



= crackles = ↓breath sounds

= wheeze



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

Extremities:

Cyanosis: <input type="checkbox"/> absent <input type="checkbox"/> present	Peripheral pulses: <input type="checkbox"/> present <input type="checkbox"/> absent	Peripheral edema: <input type="checkbox"/> absent <input type="checkbox"/> present
---	--	---

CNS:

Level of consciousness: alert drowsy unresponsive | Orientation: person place time

Skin:

Rash No Yes Describe: _____

Criteria for Hospital Admission (one or more of the following):

- | | |
|--|---|
| <input type="checkbox"/> Respiratory distress/cyanosis (O2 sat \leq 91%) | <input type="checkbox"/> Hypotension |
| <input type="checkbox"/> Pneumonia (CXR confirmed – if applicable) | <input type="checkbox"/> Seizures |
| <input type="checkbox"/> Severe dehydration | <input type="checkbox"/> Bulging fontanelle |
| <input type="checkbox"/> Altered level of consciousness | <input type="checkbox"/> Apneic spells |
| <input type="checkbox"/> Signs of septicemia | |

Disposition:

Home & Self-Care Acute Care

Name of patient: _____
 Address: _____
 Date of birth: / / Age: _____
 MRN: _____
 Telephone: Home: () - Business: () -

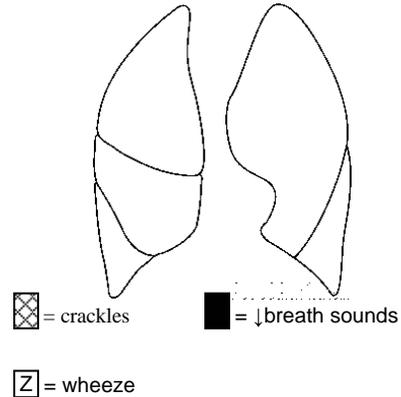
2. MD (or Designate) Physical Exam and Assessment (Acute Care)

Head & Neck:

- Mucous membranes moist dry
 Conjunctiva pink pale
 Neck supple stiff/rigid nodes
 Other findings of note: _____

Chest:

- Respiratory effort normal distressed
 Auscultation clear

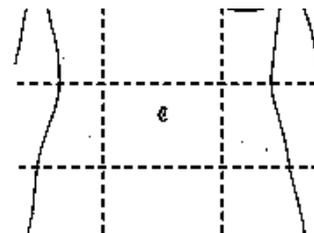


CVS:

- Apex normal _____
 Peripheral pulses present absent
 Heart Sounds normal _____
 Murmur _____
 Capillary Refill ≤ 3 secs > 3 secs

Abdomen:

- Bowel sounds normal _____
 Palpation soft guarding
 non-tender tender
 Organomegaly/mass _____



Extremities:

- | | | |
|---|--|---|
| Cyanosis:
<input type="checkbox"/> absent <input type="checkbox"/> present | Peripheral pulses:
<input type="checkbox"/> present <input type="checkbox"/> absent | Peripheral edema:
<input type="checkbox"/> absent <input type="checkbox"/> present |
|---|--|---|

CNS:

- | | | | |
|------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Level of consciousness | <input type="checkbox"/> alert | <input type="checkbox"/> drowsy | <input type="checkbox"/> unresponsive |
| Orientation | <input type="checkbox"/> person | <input type="checkbox"/> place | <input type="checkbox"/> time |
| Cranial nerves | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Reflexes | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Motor | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |
| Sensation | <input type="checkbox"/> normal | <input type="checkbox"/> abnormal | <input type="checkbox"/> not assessed |

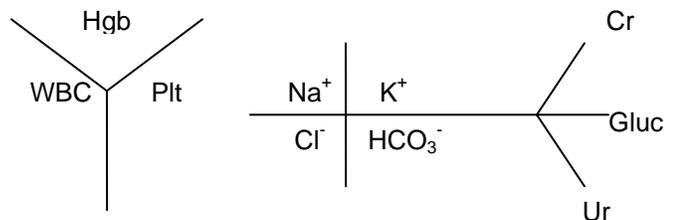
Skin:

- Rash No Yes Describe: _____

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Laboratory Review:

normal abnormal see attached lab results



AST _____ LDH _____ CBG/ABG _____
 ALT _____ CK _____ ALP _____
 amylase _____ Tbili _____ Troponin _____
 INR _____ PTT _____

Criteria for ICU Admission (one or more of the following):

- Child failing to maintain an SaO₂ of >92% in FiO₂ of >0.6.
- Persistent hypotension.
- There is severe respiratory distress and a raised pCO₂.
- There is a rising respiratory rate and pulse rate with clinical evidence of severe respiratory distress with or without a raised pCO₂.
- There is a need for ventilation (i.e., apneic episodes, hypercarbia).
- There is evidence of encephalopathy.

Diagnosis:

INFLUENZA: Clinical Lab Defined Suspected

INFLUENZA (with Associated Pneumonia)
 Clinical X-RAY Confirmed Suspected

OTHER: _____

Disposition:

Home/Self-Care Acute Care ICU

Reviewed By:

Designation:

Signature:



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

APPENDIX 18: Suspected Pandemic Influenza Medical Admission Orders for Adults

<p>This patient may have influenza! Use droplet precautions <i>(hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).</i></p>
<p>Allergies:(circle) None Weight: _____ kg Please list: _____</p>
<p>Admit to (most responsible physician):</p>
<p>Diagnosis: SUSPECTED PANDEMIC INFLUENZA</p>
<p>Calculation of Creatinine Clearance:</p> $\left[\frac{[140 - \text{_____ (age in years)] x \text{_____ (wt in kg)}]}{\text{_____ (Cr in } \mu\text{mol/L)}} \right] \times 1.2 = \text{_____} \times [0.85 \text{ if female }] = \text{_____ ml/min}$

Date & Time	Cross out and initial order not indicated; place <input checked="" type="checkbox"/> in boxes as appropriate.
	1. DAT or _____
	2. AAT or _____
	<p>3. Investigations (NO ROUTINE BLOOD WORK REQUIRED):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Blood C+S <input type="checkbox"/> CBC, electrolytes, BUN, Serum Cr, blood glucose; Day 3 repeat CBC <input type="checkbox"/> CBG/ABG <input type="checkbox"/> Nasopharyngeal swab for virology (if considering non-influenza co-morbidity) <input type="checkbox"/> Chest x-ray (if clinically necessary) <input type="checkbox"/> Other: _____
	<p>4. Standard Orders:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cardiac monitor <input type="checkbox"/> Vital signs and temp q4h <input type="checkbox"/> Consult Physiotherapy <input type="checkbox"/> O₂ to maintain sat ≥ 92%
	<p>5. IV:</p> <ul style="list-style-type: none"> <input type="checkbox"/> saline lock <input type="checkbox"/> IV: <ul style="list-style-type: none"> <input type="checkbox"/> D5W/NS @ _____ cc/h <input type="checkbox"/> D5W/0.45NS @ _____ cc/h <input type="checkbox"/> D5W/0.2NS @ _____ cc/h <input type="checkbox"/> D10/0.2NS @ _____ cc/h <input type="checkbox"/> Add: <input type="checkbox"/> 0 mEq/L <input type="checkbox"/> 20 mEq/L <input type="checkbox"/> 40 mEq/L KCL after first void

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

	<p>6. Medication Orders:</p> <p>Antivirals (if symptom onset \leq 48 hrs):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oseltamivir 150 mg PO bid x 5 days (high dosage regime – severe case) OR <input type="checkbox"/> Oseltamivir 75 mg PO bid x 5 days OR <input type="checkbox"/> Zanamavir 10 mg (2 inhalations) bid x 5 days (<i>recommended if CrCl < 10 ml/min, on dialysis, or if pregnant/breast feeding [WARNING: Not recommended for patients with asthma or COPD]</i>) 		
	<p>7. Antibiotics (consider modified dosage adjustment if CrCl < 50 ml/min)</p> <p>Recent fluoroquinolone (last 3 months):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <u>PO Course</u>: Cefuroxime 500mg PO bid x 10 days, <u>plus</u> Azithromycin 500mg PO x 1, then 250 mg PO od x 4 days <input type="checkbox"/> <u>IV Course</u>: Cefuroxime 750mg IV Q8H x 10 days <u>plus</u> Azithromycin 500mg IV OD x 5 days <p>Recent macrolide or cephalosporin (last 3 months):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <u>PO Course</u>: Levofloxacin 500 mg PO OD x 10 days <input type="checkbox"/> <u>IV Course</u>: Levofloxacin 500 mg IV OD x 10 days (<i>IV antibiotics necessary only if patients cannot take oral antibiotics.</i>) 		
	<p>8. Other Medications:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> Salbutamol 2-4 puffs MDI Q6H and Q30 minutes prn with spacer* <input type="checkbox"/> Salbutamol 5.0 mg via neb Q6H and Q30 minutes prn <input type="checkbox"/> Ipratropium 2 puffs MDI Q6H with spacer <input type="checkbox"/> Ipratropium 0.50 mg via neb Q6H* <input type="checkbox"/> Dimenhydrinate 50 mg PO/IM/IV q4h prn for nausea </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> Acetaminophen 325-650 mg PO/PR Q4H prn fever/pain <input type="checkbox"/> Heparin 5000U SC Q12H (if non-ambulatory); discontinue when actively mobilizing <input type="checkbox"/> Bowel Protocol </td> </tr> </table> <p><i>*NOTE: Nebulizer therapy is a high risk procedure. Sites/staff may seek alternative treatments.</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Salbutamol 2-4 puffs MDI Q6H and Q30 minutes prn with spacer* <input type="checkbox"/> Salbutamol 5.0 mg via neb Q6H and Q30 minutes prn <input type="checkbox"/> Ipratropium 2 puffs MDI Q6H with spacer <input type="checkbox"/> Ipratropium 0.50 mg via neb Q6H* <input type="checkbox"/> Dimenhydrinate 50 mg PO/IM/IV q4h prn for nausea 	<ul style="list-style-type: none"> <input type="checkbox"/> Acetaminophen 325-650 mg PO/PR Q4H prn fever/pain <input type="checkbox"/> Heparin 5000U SC Q12H (if non-ambulatory); discontinue when actively mobilizing <input type="checkbox"/> Bowel Protocol
<ul style="list-style-type: none"> <input type="checkbox"/> Salbutamol 2-4 puffs MDI Q6H and Q30 minutes prn with spacer* <input type="checkbox"/> Salbutamol 5.0 mg via neb Q6H and Q30 minutes prn <input type="checkbox"/> Ipratropium 2 puffs MDI Q6H with spacer <input type="checkbox"/> Ipratropium 0.50 mg via neb Q6H* <input type="checkbox"/> Dimenhydrinate 50 mg PO/IM/IV q4h prn for nausea 	<ul style="list-style-type: none"> <input type="checkbox"/> Acetaminophen 325-650 mg PO/PR Q4H prn fever/pain <input type="checkbox"/> Heparin 5000U SC Q12H (if non-ambulatory); discontinue when actively mobilizing <input type="checkbox"/> Bowel Protocol 		
	<p>9. Other Orders/Medications: In addition, follow standard ICU order sets for ICU patients.</p>		
Additional orders			
Physician Signature:	Date: / /	Time: :	

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Criteria for Automatic ICU Discharge *consider transfer to ward if all of the following are met*

- Adequate airway protection
- Absence of requirement for mechanical ventilation for ≥ 24 hours
- Adequate oxygenation: SaO₂ > 90% on FiO₂ < 0.6
- Hemodynamic stability: BP > 90/60, HR < 120 bpm, no inotropes/vasopressors

Criteria for Hospital Discharge:

- Normal level of consciousness
- Tolerating oral intake
- Stable respiratory status: RR < 20/min, SaO₂ > 90% on room air (or baseline for COPD patients)
- Hemodynamic stability: BP > 90/60, HR < 100 bpm
- Temp < 38.5°C for 24 hours

Also consider (with CCAC support at the hospital):

Ambulating independently? Able to manage activities of daily living?

- Yes – Discharge home
- No – Discharge to convalescent care facility

Physician Signature:	Date: / /	Time: :
----------------------	-------------------------	----------------



Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () -	Business: () -

APPENDIX 19: Suspected Pandemic Influenza Medical Admission Orders for Paediatrics

This patient may have influenza!
Use droplet precautions
(hand hygiene, gloves, eye protection, mask [procedure or surgical], and gown if close contact).

Allergies: (circle)	
None	Weight: _____ kg
Please list: _____	
Admit to: (Most responsible physician)	
Diagnosis: SUSPECTED PANDEMIC INFLUENZA	

Date & Time	Cross out and initial order not indicated; place <input checked="" type="checkbox"/> in boxes as appropriate.
	1. DAT or _____
	2. AAT or _____
	3. Investigations (no routine blood work required): <input type="checkbox"/> Blood C+S <input type="checkbox"/> CBC, electrolytes, BUN, Serum Cr, blood glucose; Day 3 repeat CBC <input type="checkbox"/> CBG/ABG <input type="checkbox"/> Nasopharyngeal swab for virology (if considering non-influenza co-morbidity) <input type="checkbox"/> Chest x-ray (if clinically necessary) <input type="checkbox"/> Other: _____
	4. Standard Orders: <input type="checkbox"/> Cardiac monitor <input type="checkbox"/> Vital signs and temp q4h <input type="checkbox"/> Consult Physiotherapy <input type="checkbox"/> O ₂ to maintain sat \geq 92%
	5. IV: <input type="checkbox"/> saline lock <input type="checkbox"/> IV: 1. D5W/NS @ ____ cc/h 2. D5W/0.45NS @ ____ cc/h 3. D5W/0.2NS @ ____ cc/h 4. D10/0.2NS @ ____ cc/h <input type="checkbox"/> Add: <input type="checkbox"/> 0 mEq/L <input type="checkbox"/> 20 mEq/L <input type="checkbox"/> 40 mEq/L KCL after first void

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

	<p>6. Medication Orders: Antivirals (if symptom onset < 48 hrs):</p> <p>Oseltamivir (if > 1yr)</p> <p><input type="checkbox"/> (<15 kg) 30 mg PO BID x 5 days</p> <p><input type="checkbox"/> (15-22 kg) 45 mg PO BID x 5 days</p> <p><input type="checkbox"/> (23-40 kg) 60 mg PO BID x 5 days</p> <p><input type="checkbox"/> (>40 kg) 75 mg PO BID x 5 days</p>
	<p>7. IV Antibiotics</p> <p>Neonate:</p> <p><input type="checkbox"/> Ampicillin _____ (200 mg/kg/day, divided by q6h) q6h x 10 days (adjust for newborns ≤ 7 days old)</p> <p><input type="checkbox"/> Gentamicin _____ (2.5 mg/kg/dose) q8h x 10 days (adjust for kidney disease or for newborns ≤ 7 days old)</p> <p>Additional IV Antibiotics Options:</p> <p><input type="checkbox"/> Ampicillin (sepsis) <input type="checkbox"/> 0-7 days: 100 mg/kg/dose IV q12h = _____ mg* IV q12h (meningitis) <input type="checkbox"/> 0-7 days: 200 mg/kg/dose IV q12h = _____ mg* IV q12h * round to the nearest 25 mg</p> <p><input type="checkbox"/> Gentamicin <input type="checkbox"/> ≤32 weeks GA, 2.5 mg/kg/dose IV q24h = _____ mg* IV q24h <input type="checkbox"/> ≤36 weeks GA, 2.5 mg/kg/dose IV q18h = _____ mg* IV q18h <input type="checkbox"/> ≥37 weeks GA, 2.5 mg/kg/dose IV q12h = _____ mg* IV q12h * round down to nearest mg</p> <p>1-3 Months:</p> <p><input type="checkbox"/> Cefuroxime _____ (100 mg/kg/day, divided by q6h) q6h x 10 days</p> <p><input type="checkbox"/> +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days</p> <p>3 months – 5 years:</p> <p><input type="checkbox"/> Cefuroxime _____ (100 mg/kg/day, divided by q6h) q6h x 10 days</p> <p><input type="checkbox"/> +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days</p> <p>> 5 years:</p> <p><input type="checkbox"/> Cefuroxime _____ (100 mg/kg/day, divided by q8h) q8h x 10 days</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> Ampicillin _____ (100-200 mg/kg/day, divided by q6h) q6h x 10 days (max 10 g/day)</p> <p><input type="checkbox"/> +/- Erythromycin _____ (25-50 mg/kg/day, divided by q6h) q6h x 10 days (max. 4 g/day)</p> <p><input type="checkbox"/> *Cephalosporin/Penicillin Allergy: Clindamycin _____ (25-40 mg/kg/day, divided by q6-8h) q_____ h x 10 days</p>

Name of patient:	
Address:	
Date of birth: / /	Age:
MRN:	
Telephone: Home: () - -	Business: () - -

Criteria for Automatic ICU Discharge (consider transfer to ward if all of the following are met):

- Adequate airway protection
- Absence of requirement for mechanical ventilation for ≥ 24 hours
- Adequate oxygenation: SaO₂ > 90% on FiO₂ < 0.6
- Hemodynamic stability: BP > 90/60, HR < 120 bpm, no inotropes/vasopressors

Criteria for Hospital Discharge:

- Normal level of consciousness
- Tolerating oral intake
- Stable respiratory status: RR < 20/min, SaO₂ > 90% on room air (or baseline for COPD patients)
- Hemodynamic stability: BP > 90/60, HR < 100 bpm
- Temp < 38.5°C for 24 hours

Also consider (with CCAC support at the hospital):

- Ambulating independently?
- Able to manage activities of daily living (with assistance from parent/guardian[s])

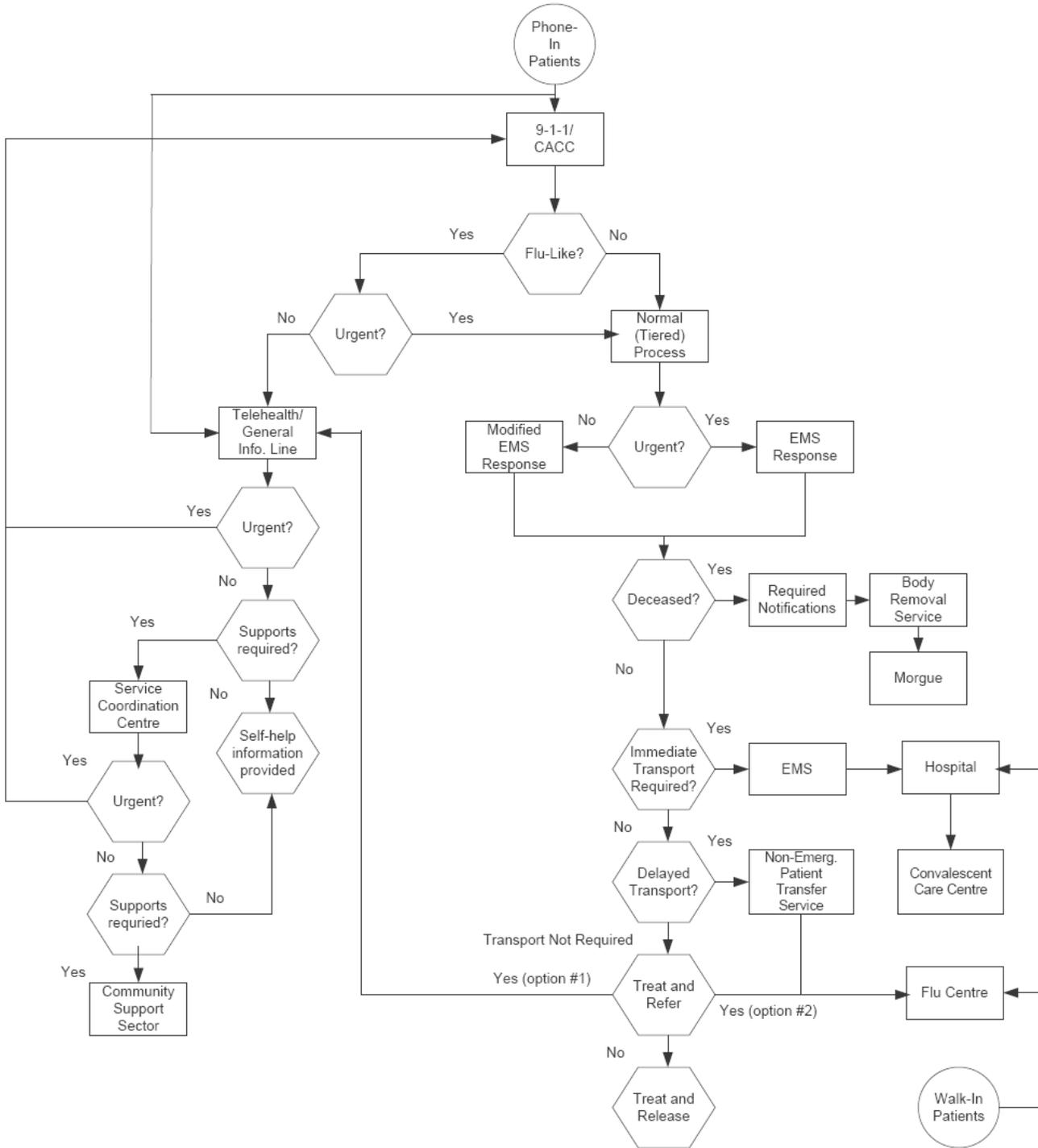
If "Yes" – Discharge home

If "No" – Reconsider discharge.

Physician Signature:	Date:	Time:
	/ /	:

APPENDIX 20

EMS Pandemic-Specific Response — Flow Chart



APPENDIX 21

Letter of Agreement for the Activation of Tiered Response 'A' Category

The [\[Click here and type name of FD\]](#) Fire Department will respond to the following emergencies within the Region of Waterloo:

LEVEL A TIERED RESPONSE CRITERIA

- (1) Unconsciousness
- (2) Difficulty / Absence of Breathing
- (3) Severe Bleeding (*not for nose, vaginal or rectal bleeds*)
- (4) Chest Pain or Suspected Heart Attack
- (5) Seizures
- (6) Unknown
- (7) Motor Vehicle Collision (*Code 4 only*)
- (8) All Farm & Industrial Entrapments Accidents
- (9) Vital Signs Absent (*VSA*)

Cambridge Central Ambulance Communications Centre will tier [\[Click here and type name of FD\]](#) Fire Department as soon as possible to respond to all calls that fulfill the above criteria.

Cambridge Central Ambulance Communications Centre will not tier Fire Departments to locations (nursing homes, clinics, etc.) with a Medical Doctor, Registered Nurse or Registered Practical Nurse on scene with access to oxygen.

Exception:

All confirmed VSA calls will be tiered even if Medical Doctor or Registered Nurse or Registered Practical Nurse on scene with access to oxygen.

This agreement acknowledges that fire emergencies take precedence, but the [\[Click here and type name of FD\]](#) Fire Department will respond to the above calls if not already engaged.

Representative for Region of Waterloo (*please sign*):

John Prno,
Director, Waterloo Region Emergency Medical Services

Date

Representative for the [\[Click here and type name of FD\]](#) **Fire Department** (*please sign*):

[\[Click here and type name of Fire Chief\]](#)
Fire Chief, [\[Click here and type name of FD\]](#) Fire Department

Date

APPENDIX 22

Letter of Agreement for the Activation of Tiered Response 'B' Category

The [\[Click here and type name of FD\]](#) Fire Department will respond to the following emergencies within the Region of Waterloo:

LEVEL B TIERED RESPONSE CRITERIA

- (1) Unconsciousness
- (2) Difficulty / Absence of Breathing
- (3) Severe Bleeding (*not for nose, vaginal or rectal bleeds*)
- (4) Chest Pain or Suspected Heart Attack
- (5) Seizures
- (6) Unknown
- (7) Motor Vehicle Collision (*Code 4 only*)
- (8) All Farm & Industrial Entrapments Accidents
- (9) Vital Signs Absent (VSA)

Cambridge Central Ambulance Communications Centre will tier [\[Click here and type name of FD\]](#) Fire Department as soon as possible to respond to all calls that fulfill the above criteria for items 7, 8 & 9 regardless of ambulance availability.

Cambridge Central Ambulance Communications Centre will tier [\[Click here and type name of FD\]](#) Fire Department as soon as possible to respond to all calls that fulfill the above criteria for items 1, 2, 3, 4, 5, & 6 **only** when a delay in ambulance of **ten (10) minutes** is anticipated. Delay of Ambulance refers to any time ambulance response is anticipated to be greater than 10 minutes and it is assumed that fire response will be quicker.

Cambridge Central Ambulance Communications Centre will not tier Fire Departments to locations (nursing homes, clinics, etc.) with a Medical Doctor, Registered Nurse or Registered Practical Nurse on scene with access to oxygen.

Exception:

All confirmed VSA calls will be tiered even if Medical Doctor or Registered Nurse or Registered Practical Nurse on scene with access to oxygen.

This agreement acknowledges that fire emergencies take precedence, but the [\[Click here and type name of FD\]](#) Fire Department will respond to the above calls if not already engaged.

Representative for Region of Waterloo (*please sign*):

John Prno, Date
Director, Waterloo Region Emergency Medical Services

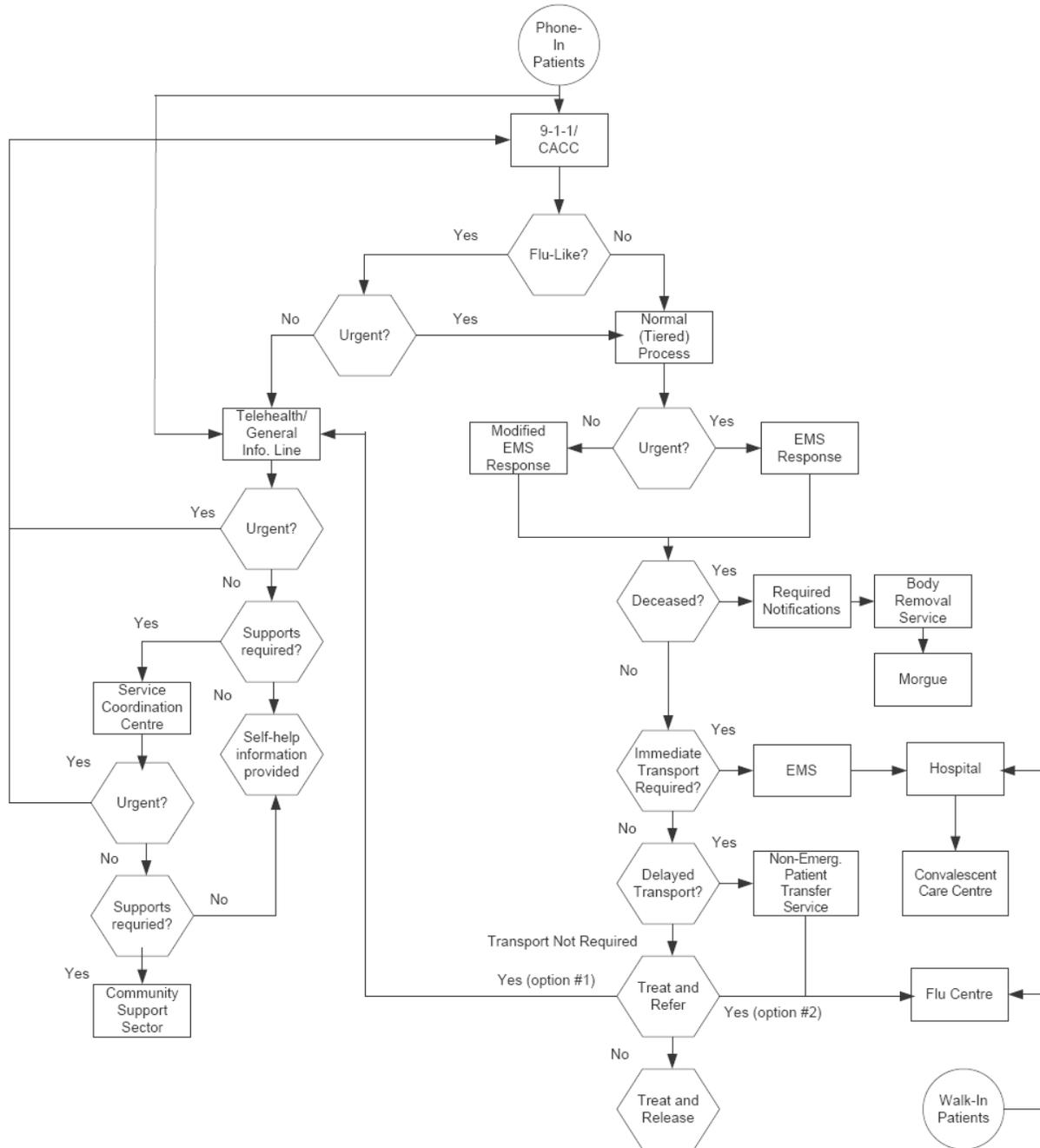
Representative for the [\[Click here and type name of FD\]](#) **Fire Department** (*please sign*):

[\[Click here and type name of Fire Chief\]](#) Date
Fire Chief, [\[Click here and type name of FD\]](#) Fire Department

APPENDIX 23

Infection Prevention & Control Appendices

23.1 Proposed EMS Patient Triage System



23.2 Categories of transmission patterns for infectious agents

- **Direct Contact Transmission:** Occurs when microorganisms are transferred from direct physical contact between an infected or colonized individual and a susceptible host (skin-to-skin contact).
- **Indirect Contact Transmission:** Involves the transfer of microorganisms to a susceptible host via an intermediate object (e.g. contaminated instruments, inanimate objects)
- **Droplet Transmission:** Refers to large droplets (>5µm in size) that are generated when the source patient coughs or sneezes, or during the performance of certain procedures such as bronchoscopy or suctioning. These droplets are propelled a short distance (<1 metre) through the air and are deposited on the mucous membranes of the nose or mouth and possibly eyes of the new host.
- **Airborne Transmission:** Refers to the dissemination of either airborne droplet nuclei (small particle residue <5µm in size of evaporated droplets) or dust particles containing the infectious agent. Such microorganisms remain suspended in the air for long periods of time and are widely dispersed by air currents. The microorganisms are inhaled by susceptible hosts, who may be some distance away from the source patient, depending on environmental factors.

23.3 Infection control precautions

Droplet and Contact Precautions: Precautions designed to reduce the transmission of disease spread by contact with respiratory secretions generated by sneezing, coughing or by procedures generating aerosols such as intubation.

Routine Practices – Practices for the routine care of all patients:

Hand Hygiene

Hands must be washed:

- After any direct contact with a patient, before contact with the next patient (direct contact refers to hand contact with the patient's skin).
- Before any contact with immunocompromised or ICU patients
- Before performing invasive procedures
- After contact with blood, body fluids, secretions and excretions and exudates from wounds
- After contact with items known or considered likely to be contaminated with blood, body fluids, secretions, or excretions (e.g. bedpans, urinals, wound dressings)
- Immediately after removing gloves
- Between certain procedures on the same patient where soiling of hands is likely, to avoid cross-contamination of body sites
- Before preparing, handling, serving or eating food and before feeding a patient
- When hands are visibly soiled
- After personal use of toilet or wiping nose.
- Before contact with immunocompromised patients and patients with extensive skin damage
- Before contact with percutaneously implanted devices.

Special considerations: The need for hand hygiene after casual contact unrelated to patient care should be judged on an individual basis.

Hand Hygiene may be performed with soap and water or alcohol rubs (60-90%). When there is visible soiling, hands should be washed with soap and water before using waterless antiseptic hand rinses

Gloves

Gloves should be used as an additional measure, not as a substitute for hand washing.

Gloves are not required for routine patient care activities in which contact is limited to a patient's intact skin.

Gloves may not be needed for routine diaper changes if the procedure can be done without contaminating the hands with stool or urine.

Clean, non-sterile gloves should be worn:

- For contact with blood, body fluids, secretions and excretions, mucous membranes, draining wounds or non-intact skin (open skin lesions or exudative rash)
- For handling items visibly soiled with blood, body fluids, secretions or excretions
- When the health care worker has open skin lesions on the hands.

When indicated, gloves should be put on directly before contact with the patient or just before the task or procedure requiring gloves.

Gloves should be changed between care activities and procedures with the same patient after contact with materials that may contain high concentrations of microorganisms, e.g. after handling an indwelling urinary catheter or suctioning an endotracheal tube.

Gloves should be removed immediately after completion of care or a specific task, at point of use and before touching clean environmental surfaces

Hand hygiene should be performed immediately after removing gloves. Single-use disposable gloves should not be reused or washed

Mask, Eye Protection, Face Shield

Masks and eye protection or face shields should be worn where appropriate to protect the mucous membranes of the eyes, nose and mouth during procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions

Gowns

The routine use of gowns is not recommended. Gowns should be used to protect uncovered skin and prevent soiling of clothing during procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions

Accommodation

Generally, single rooms are not required for routine patient care. In the acute care setting, patients who visibly soil the environment or for whom appropriate hygiene cannot be maintained should be placed in single rooms with dedicated toileting facilities. This includes mobile patients with fecal incontinence if stools cannot be contained in diapers, and patients with draining wounds who do not keep their dressings in place

Single rooms are not required for children in diapers unless they have uncontained diarrhea and cannot be confined to their designated bed space

Patient Care Equipment

Where possible, dedicated patient care equipment that will not be shared between patients should be considered for ICU and other high risk areas.

Reusable equipment that has been in direct contact with the patient should be cleaned and reprocessed before use in the care of another patient. Items that are routinely shared should be cleaned between patients. A routine cleaning schedule should be established and monitored for items that are in contact only with intact skin, if cleaning between patients is not feasible.

Equipment that is visibly soiled should be cleaned.

Commodes, like toilets, should be cleaned regularly and when soiled. Bedpans should be reserved for use by a single patient and labelled appropriately.

Procedures should be established for assigning responsibility and accountability for routine cleaning of all patient care equipment

Soiled patient care equipment should be handled in a manner that prevents exposure of skin and mucous membranes and contamination of clothing and the environment.

Used needles and other sharp instruments should be handled with care to avoid injuries during disposal or re-processing. Used sharp items should be disposed of immediately in designated puncture-resistant containers located in the area where the items were used.

Mouthpieces, resuscitation bags, or other ventilation devices should be provided for use in hospital areas where the need to resuscitate is likely to occur. Personal care supplies (e.g. lotions, creams, soaps) should not be shared between patients.

Environmental Control

Procedures should be established for routine care, cleaning and appropriate disinfection of patient furniture and environmental surfaces.

APPENDIX 24

Common Responses to Stress during a Community Crisis

You may feel:

- Loss of emotional control or inappropriate emotional response
- Anxiety, apprehension, worry
- Irritability, restlessness, agitation, grouching
- Feelings of depression, moodiness, periods of crying
- Anger, blaming
- Feeling overwhelmed
- Less interest in usual activities
- Feelings of isolation, detachment, loneliness
- Feelings of guilt about surviving, being healthy
- Denial or holding in feelings

You may experience:

- Headaches
- Upset stomach
- Soreness in muscles
- Hot or cold spells, sweating or chills
- Rapid heart rate
- Faintness or dizziness (seek medical evaluation)
- Numbness or tingling in parts of the body
- Feeling a “lump in the throat”
- Pains in chest, trouble breathing (seek medical evaluation)
- Easily startled
- Muscles shaking, twitching
- Feeling tired and weak
- Sleep problems
- Hyperactivity
- Outbursts of anger or frequent arguments
- Inability to express self verbally or in writing
- Withdrawal, wanting to be alone
- Increased use of alcohol, tobacco, drugs
- Avoidance of activities or places that remind you of traumatic events
- Family problems
- Loss or increase of appetite

You may have trouble with:

- Staying on task
- Problem solving
- Thinking clearly (i.e., difficulty paying attention)
- Forgetfulness, memory problems
- Making decisions
- Nightmares
- Thinking about the same thing over and over

Self-Care – Ways to Help Manage Your Stress:

- Maintain contact and connection with primary social supports
- Talk about your thoughts and feelings that keep returning with someone who is a good listener. Discuss the difficult parts. This helps you “let the steam out,” integrate, and move on from the experience.
- Nurture and pamper yourself. Get plenty of rest. Allow yourself downtime and don’t push yourself. Spend time with your support system of family and friends and dog or cat. Take a leisurely hot bath, get a massage. Plan extra time to do usual tasks; you may not be able to function as efficiently as usual. Allow others to help with your tasks; you’re not the only one who can do it.
- Remember what you did previously to cope with stress and practice it.
- Eat well and take your time. Avoid caffeine, fast foods, and sugar. Drink sufficient water. Avoid overeating.
- Accept whatever feeling you are having and recognize that others who were involved in the same incident may be on a different timetable of emotions. Be patient with yourself and others.
- Turn off your radio and television when the news is being broadcast. Too much trauma exposure just increases the unease, promotes feeling overwhelmed, and slows returning to normal. This is also good advice if you have children. The younger they are the less they should watch of the news.
- Find some release for what is inside. Write down your thoughts and feelings in journal, paint, draw, make music, or dance.
- Do some mild exercise – walking is great – be present, watch your breath, breathe deeply with long, slow exhalations. Let go and release tension and discomfort with each exhalation. See each inhalation as restoring yourself.
- If you are having trouble sleeping don’t stay in bed for too long trying to fall asleep as this may just increase restlessness, anxiety, and rumination. Instead get up, read a book, listen to some soothing music, or watch an old favourite movie until you are sleepy.,
- Watch a funny movie. It’s okay to laugh and enjoy yourself. Affirm life.
- Read an inspiring quote or religious passage. Maintain your spiritual practice.
- Don’t immediately make major changes in your life – give yourself some time first.
- Don’t try to self-medicate and numb out. You will recover more quickly without it.
- Gradually try to find a routine.
- Remember no one who responds to a traumatic event is untouched by it.
- Profound sadness, grief and anger are normal reactions to an abnormal event.
- Seek professional assistance if you feel you are getting stuck with repeated thoughts or emotions about the experience or are having difficulty returning to your normal routine. Ask for a debriefing or see someone through EAP. Don’t feel badly about asking for help; it is not uncommon to have some reaction after this type of experience and remember it usually passes.

APPENDIX 25

Psychosocial “Lessons Learned” From Past Emergency Events

- It is difficult to prepare responders for everything they might encounter.
- Even seasoned responders can face situations and issues that cause uneasiness and distress.
- The first wave of an event is bad but the second wave is psychologically worse if unexpected. Expect it.
- It is not unusual for responders to be asked to work outside their areas of expertise.
- Concerns about family and friends rank high on responders’ lists of priorities.
- Timely, accurate, and candid information should be shared to facilitate decision-making.
- Self-help activities are essential to mission completion.
- Everything possible should be done to safeguard responders’ physical and emotional health.
- Responders do not need to face response challenges alone. They may share their experiences with buddies, teammates, family members, and colleagues.
- It is especially difficult for responders to maintain personal resilience when they witness the deaths of children.
- Organizational differences among groups of responders and cultural differences between victims and responders can impede the timely and efficient provision of emergency services.
- Communicate often, using a variety of mediums.
- Try to provide stability and create the sense of “routine” as much as possible. People will be longing for balance and calm. Creating routine out of the chaos may provide the lifeline everyone needs to make it through.
- Maintain humour as much as possible.

APPENDIX 26

Mutual Assistance Agreement for Critical Infrastructure Providers

THIS MUTUAL ASSISTANCE AGREEMENT

made this day of [insert date here]

BETWEEN:

[Insert organization name here]

OF THE FIRST PART

— AND —

[Insert organization name here]

OF THE SECOND PART

WHEREAS the *Emergency Management and Civil Protection Act*, R.S.O. 1990, c. E. 9. Provides that the Council of a municipality may make an agreement with another municipality for the provision of any personnel, service, equipment or material during an Emergency.

AND WHEREAS the parties wish to provide for mutual aid and assistance to each other through the provision of personnel, services, equipment or material to one or the other during an Emergency within the meaning of the *Emergency Management and Civil Protection Act*,

AND WHEREAS the parties have Emergency plans pursuant to the *Emergency Management and Civil Protection Act*,

NOW THEREFORE in consideration of the mutual covenants herein contained, the parties agree as follows:

1. Definitions

1.1 In this Agreement,

1.1.1 “Assisted Municipality” means the municipality receiving aid or assistance pursuant to this Agreement;

1.1.2 “Assisting Municipality” means the municipality providing aid or assistance pursuant to this Agreement;

- 1.1.3 “Emergency”, “Emergency Area” and “Emergency Plan” shall have the same meanings as in the *Emergency Management and Civil Protection Act*;
- 1.1.4 “Mutual Assistance Agreement” means this Agreement and the attached Schedule(s) which embody the entire Agreement between the parties;
- 1.1.5 “Requesting Party” means the municipality asking for aid and /or assistance pursuant to this Agreement;
- 1.1.6 “Pandemic Control Group” or “Emergency Control Group” means the organizational entity responsible for directing and controlling the Assisted Municipality’s response to an Emergency.

2. Role of the Solicitor General

- 2.1 The parties acknowledge that pursuant to the *Emergency Management and Civil Protection Act* (the “Act”), the Solicitor General for the Province of Ontario is responsible for the administration of the Act and is the principal contact for all Emergencies.
- 2.2 The parties further agree that the Solicitor General should be notified in writing of any request made under this Agreement. The Requesting Party agrees to notify in advance Emergency Measures Ontario (EMO), Ministry of Community Safety and Correctional Services on the matter of any request for assistance made under this Agreement.

3. Authorization to Request / Offer Assistance

- 3.1 Each party hereby authorizes its Chief Administrative Officer (hereinafter “CAO”), (or such other senior officer of the party as the party has designated by by-law) to request assistance, accept offers to provide, or to offer to provide assistance pursuant to this Agreement on behalf of that party.

4. Requests for Assistance

- 4.1 The parties agree that in an Emergency, a Requesting Party may request assistance in the form of qualified personnel, services, equipment, or material from the other party.
- 4.2 The request for assistance shall be made by the CAO of the Requesting Party to the CAO of the Assisting Municipality. The CAO may make the initial request for assistance orally. However, any request for assistance made orally shall be confirmed in writing by the Requesting Party within three (3) days of the initial oral request. The Assisting Municipality may provide assistance to the other party upon receipt of the oral request.
- 4.3 The request for assistance shall be confirmed in writing by the Requesting Party in accordance with Schedule “A” attached hereto. The written request shall be set out in detail the specific personnel, services, equipment or material that has been

requested as assistance, and which the Assisting Municipality has agreed to provide. The Assisting Municipality may request such additional information as it considers necessary to confirm the existence of the Emergency and to assess the type, scope, nature and amount of assistance to be provided.

- 4.4 The Assisting Municipality may in its sole discretion determine the type and scope, nature and amount of assistance to be provided.
- 4.5 The parties may by mutual agreement amend the assistance to be provided to the Assisted Municipality under this Agreement. Amendments to scope, type, nature or amount of assistance shall be confirmed in writing by the Requesting Party within three (3) days of being agreed upon.

5. Limitations on Assistance Provided

- 5.1 Nothing in this Agreement shall require or obligate or be construed to require or obligate a party to provide assistance. Each party shall retain the right to refuse the request to provide assistance, and the right to offer options to the assistance that has been requested.
- 5.2 No liability shall arise against the Assisting Municipality if it fails for any reason whatsoever to respond to request for assistance made under this Agreement.
- 5.3 When assistance has been offered or provided by the Assisting Municipality, the Assisting Municipality shall not be obligated to provide any further assistance or to do anything or take any action beyond that which is specifically agreed to by the acceptance of the request for assistance.
- 5.4 Nothing in this Agreement shall prevent the Assisting Municipality, in its sole discretion, from withdrawing any or all assistance provided to the Assisted Municipality. Any withdrawal of assistance by the Assisting Municipality shall be made only upon at least three (3) days notice to the Assisted Municipality.

6. Terms and Termination

- 6.1 This Agreement shall be in effect from _____.
- 6.2 Despite any other section of this Agreement, either party may terminate this Agreement upon at least sixty (60) days' written notice to the other party.

7. Costs

- 7.1 The parties agree that any and all costs for assistance are to be paid by the Assisted Municipality. The Assisted Municipality shall be responsible to pay for any and all costs incurred for the assistance or by the Assisting Municipality in providing the assistance. Such costs shall include wages, salaries, and expenses incurred in providing the assistance, but shall exclude employment benefits.
- 7.2 The Assisted Municipality shall also be responsible for all actual operating costs for all personnel, services, equipment, machinery or material furnished including, but not limited to: costs of fuel; repairs; parts and any and all other items directly

attributed to the operation of equipment and machinery; and, services and material furnished as assistance to the Assisted Municipality under this Agreement.

8. Payment

- 8.1 Payment by the Assisted Municipality for costs incurred for the Assistance provided, shall be subject to the Assisted Municipality's receipt of an invoice from the Assisting Municipality. Such invoice shall set out in sufficient detail the costs actually incurred by the Assisting Municipality in providing assistance.
- 8.2 The Assisted Municipality shall remit payment of the amount owing for the assistance provided within ninety (90) days of the termination of the Emergency or the receipt of the Assisting Municipality's invoice, whichever is later.
- 8.3 Any amount remaining unpaid and outstanding after the ninety (90) day period referred to in sub-section 8.2 of this Agreement shall bear interest at the rate of _____ *per cent* (____%) per _____ until paid.

9. Employment Relationship

- 9.1 Despite that the employees, contracts, servants and agents (collectively "the workers") of the Assisting Municipality may be assigned to perform duties for the Assisted Municipality and that for the duration of the Emergency. The Assisted Municipality shall reimburse the Assisting Municipality for the costs of the wages, salaries, expenses of the workers, in all other respects the workers of the Assisting Municipality retain their employment or contractual relationship with the Assisting Municipality. The parties acknowledge and agree that the Assisted Municipality is not to be deemed the employer of the Assisting Municipality's employees, agents, or contracts or servants under any circumstances or for any purpose whatsoever.

10. Indemnity

- 10.1 The Assisted Municipality shall indemnify and save harmless the Assisting Municipality from all claims, costs, all manner of action or actions, cause and causes of action duties, dues, accounts, covenants, contracts, demands or other proceedings of every kind or nature whatsoever at law or in equity arising out of this Agreement and out of the provision of any assistance pursuant to this Agreement.

11. Insurance

- 11.1 During the term of this Agreement, each party shall obtain and maintain in full force and effect, general liability insurance issued by an insurance company authorized by law to carry on business in the Province of Ontario, providing for, without limitation, coverage for personal injury, public liability and property damage. Such policy shall:
- 11.1.1 Have inclusive limits of not less than Five Million Dollars (\$5,000,000) for injury, loss or damage resulting from anyone occurrence;
 - 11.1.2 Contain a cross-liability clause endorsement of standard wording;

- 11.1.3 Name the other party as an additional insured with respect to any claim arising out of the Assisted Municipality's obligations under this Agreement or the Assisting Municipality's provision of personnel, services, equipment or material pursuant to this Agreement; and
- 11.1.4 Upon request of the other party, provide proof of insurance of so required in a form satisfactory to the other party's CAO.

12. Collective Agreements

- 12.1 Each party agrees to use its best efforts to amend its collective agreements, if necessary, to provide for this Agreement and assistance provided pursuant to this Agreement.

13. Liaison and Supervision

- 13.1 The Assisting Municipality shall have the right, to be exercised in its sole discretion, to assign an employee or agent (the "Liaison Officer") of the Assisting Municipality to the Pandemic Control Group or Emergency Control Group of the Assisted Municipality. The Liaison Officer shall provide a liaison between the Assisting Municipality and the Pandemic Control Group or Emergency Control Group of the Assisted Municipality. The parties acknowledge that the purpose of the Liaison Officer shall be to permit communication between the Assisted and Assisting Municipalities. The Liaison Officer shall be permitted to inform the Assisting Municipality on the Status of the Emergency and the actions taken by the Assisted Municipality. The Liaison Officer shall have the right to obtain information about the Emergency and the use of the assistance provided in order to report to the Assisting Municipalities during and after the duration of the assistance provided and the Emergency.
- 13.2 The Assisting Municipality shall assign its personnel to perform tasks as directed by the Pandemic Control Group or Emergency Control Group of the Assisted Municipality. The Assisting Municipality shall have the right to assign supervisory personnel to operate or supervise the operation of any of the Assisting Municipality's personnel and or equipment furnished as assistance to the Assisted Municipality. Such supervision shall be in accordance with the instructions of the Pandemic Control Group or Emergency Control Group.

14. Information Sharing

- 14.1 Subject to the *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA), the parties agree to share with each other, information lists or database detailing the amount, type, capability, and characteristics of personnel, service, equipment or material in the possession of each party, which may be available to the requesting party under this agreement. Such sharing of information shall occur upon the execution of this Agreement and the parties, on mutual agreement, shall update these information lists from time to time.

15. Food and Lodging

- 15.1 For the duration of the assistance provided under this Agreement, the Assisted Municipality shall be responsible for providing all food, lodging and accommodation required by the personnel furnished pursuant to this Agreement. Where food and lodging cannot be provided in-kind, the Assisted Municipality shall pay a reasonable *per diem* to personnel for any food and lodging purchased by personnel of the Assisting Municipality.

16. Notice

- 16.1 If not otherwise provided in this Agreement, written notice given pursuant to this Agreement must be addressed,

in the case of notice to the _____, to:

The CAO
[insert organization name here]

-and-

in the case of notice to _____ to:

The CAO
[insert organization name here]

- 16.2 If hand delivered, the notice is effective on the date of delivery; if faxed, the notice is effective on the date and time the fax is sent; if sent by electronic mail, the notice is effective on the date sent; and if mailed, the notice is deemed to be effective on the fifth business day following the day of mailing.

- 16.3 Any notice given shall be sufficiently given if signed by the CAO or by a person authorized by or acting under the direction or control of the CAO.

17. Rights and Remedies

- 17.1 Nothing contained in this Agreement shall be construed as restricting or preventing either party from relying on any right or remedy otherwise available to it under this Agreement, at law or in equity in the event of any breach of this Agreement.

18. Binding Effect

- 18.1 This Agreement shall ensure to the benefit of, and be binding upon the parties and their respective successors, administrators and assigns.
- 18.2 This Agreement shall not be construed as or deemed to be an agreement for the benefit of any third parties, and no third party shall have any right of action arising in any way or manner under this Agreement for any cause whatsoever.

19. Incorporation of Schedules

19.1 This Agreement and the attached Schedule “A” (together with the lists and information exchanged pursuant to Section 14) embody the entire Agreement and supersede any other understanding or agreement, collateral, oral or otherwise, existing between the parties prior to or at the date of execution.

20. Other Agreements [include if necessary]

20.1 This parties hereto acknowledge and agree that if assistance is provided pursuant to this Agreement, that this Agreement and its provisions shall take precedence over any other mutual assistance agreements or mutual aid agreements in effect to which the Assisted Municipality or the Assisting Municipality may be a party.

20.2 The parties acknowledge that each party may have its own local boards that have emergency management or response capabilities or responsibilities or both. Each party agrees to use best efforts to have theses local boards become party to this Agreement and to consent to have this Agreement take precedence over any other mutual assistance agreement(s) or mutual aid agreement(s) in effect to which such local boards may be a party.

21. Provisions Surviving Termination

21.1 Sections 2, 7, 8, 9, 10, 11, 16, and 21 of this Agreement shall survive termination of this Agreement.

22. Governing law

22.1 The parties agree to be governed by the laws of the Province of Ontario and attorn to the jurisdiction of the courts of the Province of Ontario.

23. Arbitration

23.1 The parties hereby appoint their respective CAOs (or other official authorized to request or offer assistance under this agreement) to resolve and settle any disputes or disagreements arising out of this Agreement or in connection with or any assistance provided hereunder. The decision of the CAOs shall be final and binding on the parties.

IN WITNESS WHEREOF the parties have executed this Agreement.

SIGNED SEALED AND) [Insert organization name here]
DELIVERED)

In the Presence of:)

_____)

_____)
Witness)

[Authority])

)
)
)

_____)
Clerk)

[Authority))

_____)
Clerk)

[Insert organization name here]

SCHEDULE "A"

Mutual Assistance Agreement

I, _____, Chief Administrative Officer / Designated Official of [insert organization name here] duly authorized to do so by the Council of [insert organization name here], do hereby request of [insert organization name here] to provide assistance in the form of

- _____ Personnel
- _____ Services
- _____ Equipment
- _____ Material

AS IS MORE PARTICULARLY SET OUT IN DETAIL AS FOLLOWS:

The above confirms the assistance verbally requested on _____, and which assistance [insert organization name here] has agreed to provide.

Date at _____ this _____ day of _____, 20__.

Chief Administrative Officer
[Insert organization name here]

APPENDIX 27

Coroner's Screening Questionnaire

(Draft)

Screening Questionnaire
for Possible Death from Influenza
Outside of a Health Care Setting

Purpose:

This questionnaire has been designed to be utilized by appropriate health care professionals to exclude cases that require a coroner's investigation and/or to make a presumptive diagnosis of Influenza as the medical cause of death.

It will apply primarily to deaths occurring in the community, rather than in a designated health care facility. It is assumed that such facilities will have mechanisms and personnel in place to pronounce and certify the deaths, and will also be familiar with referrals to the Coroner's Office.

This document is subject to revision and finalization at the time of a declared influenza pandemic so as to ensure relevancy to the specific attributes of the particular virus strain involved.

Date:

Time:

Location:

Person Interviewed:

Relationship to Deceased Person:

Contact Information: address:

Phone:

Interviewed by: (name and designation):

Section One:

Preliminary Questions to determine NECESSITY TO INVOLVE CORONER:

Does the MANNER of death appear to be other than Natural Causes?
(defined as death from a natural disease, or complication of disease or treatment)
("Other" would include apparent Accident, Suicide, Homicide, or Suspicious
Circumstances) Y N

By history from caregivers, is the death both Sudden and Unexpected?
(Assessor is to use his/her impression, not the caregiver's view that the death
was both sudden and unexpected) Y N

Has anyone expressed concerns regarding medical care?
(Including caregivers, other relatives, health care professionals, etc.) Y N

Is it impossible to establish firm identification of the deceased?
(No responsible person in attendance, or decompositional changes prevent
visual identification) Y N

If after consultation with a designated representative of the Office of the MOH a presumptive diagnosis of Influenza cannot be made, NOTIFY THE CORONER'S OFFICE.

If a presumptive diagnosis of Influenza CAN BE MADE

- proceed to complete this form and other appropriate transfer paperwork as per instructions from your MOH Office (Section Three)
- notify a local funeral home to attend to remove body. (If the deceased has no known prior arrangements or if caregiver/family members in attendance express no specific preferences, proceed as per local municipality's plan).

Local municipalities are expected to have contingencies in place to ensure that Death Certification and Registration will take place after body removal from the death scene.

Section Three:

Pronouncement of Death for: (name)

Address:

Date:

Time:

By: (Screener)

Signature: _____

Coroner called: Y N

If yes, who was contacted?

Time:

Local funeral home contacted: Y N

Time:

Name of funeral home:

Location:

Contact person:

Phone Number:

APPENDIX 28

Key Considerations when Planning for a Surge in Natural Deaths during an Influenza Pandemic

Overview

An influenza pandemic will be unlike any other natural disaster. Unlike the immediate emergency response and mass burial requirements of an event like the 2004 tsunami, an influenza pandemic will result in a high number of fatalities over a longer period of time. As a result, some elements of planning made more difficult by an immediate disaster (e.g. timely identification of victims) will be easier to manage given current and ongoing pandemic preparedness efforts, and how the surge in fatalities will likely be spread over a period of time (i.e. weeks instead of days).

However, other effects caused by an influenza pandemic (e.g. psychosocial effects due to the virus' prevalence throughout the region/world, long-term taxing of traditional health care resources) necessitate the consideration as to how a pandemic, and the resulting number of deaths if the pandemic is severe, will be managed given the possibility that 35% of the population may be affected by the illness in one way or another. It is also important to consider that there may be severe staffing shortages of essential service employees.

Managing a Surge in Natural Deaths during an Influenza Pandemic — Key Considerations

Identification of Supplies and Resources

Issues:

- Status of regional survey for funeral directors (by the Ontario Funeral Service Association) and data collection of key information needs to be ascertained.
- Education, awareness, and infection control materials/supplies (e.g. hand sanitizer) will be required for all funeral/crematory settings in preparation for a pandemic.
- The Funeral Service Association of Canada (FSAC) does not recommend funeral homes order an excessive amount of supplies. FSAC recommends funeral homes have enough inventory to handle 1st wave of a pandemic (6 month supply).

Coordination and Preparedness

Issues:

- It will be necessary to consider the range of individuals/services likely to be involved in the mass fatality plan (HCW's, P/F/A, funeral directors, volunteers, faith-based organizations, municipal/community support agencies, federal agencies, military, non-profit groups); all groups will likely require education/awareness/training.
- Lead agencies for all key roles and responsibilities, however, will have to be assigned; this has consistently been demonstrated as a key failing in most mass fatality plans when utilized following a disaster.
- Guidelines to address such issues as equipment cleaning and infection control are expected from the Funeral Service Association of Canada; additional guidance will need to be provided by Public Health.

Body Identification and Tracking

Issues:

- Issues such as the need for DNA identification will likely be lesser in a pandemic than during a more immediate natural disaster (e.g. tsunami); individuals will likely have identification or be tracked through the health care system.
- Systems for data collection and tracking will be essential; they will likely have to adopt a range of systems and tools (both modern and rudimentary) depending on the severity of the pandemic and the numbers of those responders affected by the virus.
- Key consideration: foreign travelers who succumb to the virus in the region; linkages with federal authorities to ensure international counterparts are kept abreast of status in the region.
- Issue will not likely be as severe in a pandemic as most deaths are likely to occur in health care settings or in the home; special attention will have to be paid, however, to the tracking and handling of the deceased who may live alone, in shelters, hostels, etc.

Pronouncement and Certification of Death

Issues:

- Deaths resulting from an influenza pandemic would not automatically involve the Provincial and/or Regional Coroners.
- Because of the taxing of HCW's during the pandemic, most deaths as a result of the pandemic should not require an autopsy or a Coroner's examination.
- Linkages between community physicians, police, hospitals, and the Regional Coroner will be necessary to identify and determine which deaths can be assumed to be the result of the pandemic virus.
- The role of the Coroner in the following circumstances must be addressed: completing a death pronouncement and certification, approvals for cremation applications, signing warrants to dispose of unclaimed bodies.
- Municipalities should also review their death registration procedures to ensure that they will be able to address increased requests in a timely fashion.
- The Ministry of Health and Long-Term Care is seeking an amendment to the *Vital Statistics Act* to permit a broader extension of the authority to make death pronouncements.
- Reporting of statistics to Region of Waterloo Public Health.

Body Transportation and Storage

Issues:

- Bodies taken from multiple locations to central storage points may cause confusion for relatives who may be unsure where deceased loved ones have been transported.
- Morgue capacity in the region needs to be identified, along with novel ways to increase capacity of current facilities.
- Cold storage will be central for preserving evidence for identification; besides current resources and capacity, additional trailers will likely be the best additional resource; question about trailers – MOU and contracts need to be signed ahead of time; what is the body capacity of the trailers in question?
- What will be the requirements for transporting the deceased to/from funeral homes, morgue, crematory? These regulations will likely have to be loosened to allow for non-

traditional movement of bodies due to increased demands on traditional resources (e.g. use of personal vehicles, public transit services).

Consideration of Loved Ones'/Family Issues

Issues:

- Special consideration will have to be given by the Medical Officer of Health regarding the possibility for restricting public gatherings during a pandemic, and the effect this would have on restricting funerals/visitations for deceased loved ones.
- Response operations for mass fatalities will likely need to be “virtual” (i.e. online, via telephone) in the provision of assistance and/or information to family members/the public, so as to limit transmission of the virus.
- Such information will likely include location/sources of financial assistance, social security, health and safety, local burial sites and funeral homes, information regarding the handling of the deceased in the home (should there be the possibility of a prolonged period of time before body removal).
- Concerns related to pre-paid burial plots — should these be honoured? Are these burials completed before others? Should everyone be buried in one part of the cemetery?

Faith-Based Considerations

Issues:

- Consideration for customary burials within 24 hours in some religions must be made; will this be feasible at the peak of a pandemic?
- Are statistics available regarding the identification and assessment of the needs of such communities in the Waterloo Region?
- Engagement of faith-based organizations in the development of a mass fatalities plan will be essential.

Handling and Disposal of Human Remains

Issues:

- Health impact from dead bodies is negligible; not likely to be a major issue during a pandemic
- Infection control considerations will be minimal in the handling of dead bodies due to the pandemic virus; hand hygiene and droplet precautions are likely all that are needed; additional precautions for blood and body fluids must also be considered.
- Other health care impacts will remain, however; injuries resulting from the movement/transportation of bodies (back), psycho-social stresses, etc.
- Cremation likely the best mode of disposal, should family agree and positive ID be made.

Public Education

Issues:

- It will be essential to disseminate information regarding the “new” way of dealing with the deceased during a pandemic in advance; this information will need to be coupled with infection control guidelines and key contact information for residents.

- Most information will need to be distributed out to the public (pushed) rather than needing to bring people in (pulled) to obtain information about potential fatalities.
- Close coordination with media outlets will be necessary to avoid misinformation, and to promote the rights of the survivors.

APPENDIX 29

Sample Communications Bulletin

Pandemic WATERLOO REGION
INFLUENZA
PLANNING
Communications Bulletin

Date: XXX XXX

Key Messages:

Key decisions of the RECG and Sector Control Groups

Status of response and recovery efforts

Appropriate surveillance data



APPENDIX 30

Communications Control Group Membership

Members

NAME	ORGANIZATION	CONTACT INFORMATION
Bryan Stortz (Chair)	Region of Waterloo	
Lu-Ann Procter	Region of Waterloo Public Health	
Bethany Rowland	Region of Waterloo	
Linda Zavarella	Region of Waterloo	

Advisory Members

NAME	ORGANIZATION	CONTACT INFORMATION
Margaret Coleman	Waterloo Region District School Board	
Olaf Heinzl	Waterloo Region Police Service	
Nancy Hewat	Grand River Hospital	
Michael May	City of Kitchener	
Patti McKague	City of Waterloo	
Victoria Raab	St. Mary's Hospital	
John Sawicki	Conestoga College	
Chris Sellers	Cambridge Memorial Hospital	
John Shewchuk	Waterloo Catholic District School Board	
Michael Strickland	University of Waterloo	
Jacqui Tam	Wilfrid Laurier University	
TBD	City of Cambridge	
TBD	Waterloo Wellington Community Care Access Centre	

APPENDIX 31

Frequently Asked Questions about Pandemic Influenza

What is influenza? What are the symptoms?

Influenza (commonly known as 'the flu') is a contagious virus that circulates on a seasonal basis, usually from October to April, causing outbreaks of respiratory illness. People who get the flu may experience several symptoms including: fever, headache, chills, muscle aches, physical exhaustion, cough, sore throat and runny or stuffy nose.

Most healthy individuals are able to recover from the flu, but certain segments of the population, like the elderly and medically vulnerable (individuals more likely to become ill because of other complications), may experience further complications. In some cases the flu can be fatal.

What is an influenza pandemic?

An influenza pandemic (or 'pandemic') occurs when a strain of the flu virus changes in composition, becomes highly contagious, spreads easily from person to person and moves quickly around the world. Because the population is not immune to the new virus, it will affect more people and cause higher rates of illness.

There were three pandemics in the 20th century. While no one knows when the next pandemic will occur, most experts believe we are overdue. It is not possible to stop the spread of a pandemic once it starts, but it may be possible to slow its spread and minimize the impact.

What is avian influenza?

Avian influenza (or 'bird flu') is a contagious viral infection that can affect all species of birds but can, less commonly, infect mammals such as pigs and humans. Over the past year, there have been confirmed outbreaks in poultry flocks and migratory birds in Asia, Africa, Europe and the Middle East.

There have been reported cases of avian flu (the H5N1 strain) in humans. All of these cases are in Asia, Africa and the Middle East, and in individuals who had direct contact with diseased birds. So far, there is very little evidence to suggest human to human transmission of the virus has occurred. It is this human to human transmission that could start a pandemic.

How is influenza different from an influenza pandemic?

INFLUENZA	PANDEMIC INFLUENZA
Severe in the very old and the very young	May be severe in all age groups
Seasonal - occurs in the winter	Can occur at any time of the year
Normal flu mortality (deaths) - 4,000 to 8,000 year in Canada	Higher levels of mortality (deaths)
Illness usually lasts 1 to 2 weeks	Patients may be sicker for a longer period of time
Usually just one wave of illness per season	More than one wave of illness

INFLUENZA	PANDEMIC INFLUENZA
Vaccine available before each season based on common circulating strain	Vaccine may not be available for four to six months, and supply will be limited
Circulates on a seasonal basis	Spreads rapidly throughout the world
Viruses change slightly throughout the season	New circulating virus; population has little or no immunity

How does influenza (including pandemic influenza) spread?

When you cough or sneeze, you spray tiny droplets that can move up to one metre (three feet) through the air and land on other people or surfaces. These droplets contain millions of germs and are the cause of infections such as colds and the 'flu'. People become infected when they breathe in the germs, or when their hands come into contact with germs that are on surfaces (such as toys, utensils, handrails). The flu virus can live on hard, flat surfaces for up to 48 hours. If you touch something after someone has coughed on it and rub your eyes, nose, or mouth you can infect yourself.

What is the contagious period?

Flu can be contagious for 24 to 48 hours before any symptoms arise and for five days after the onset of symptoms. This means you could spread the virus without knowing you are infected. How long will a pandemic event last?

As it is impossible to know what an influenza pandemic event might look like, certain assumptions need to be made. Pandemics typically occur in waves. The first wave is expected to last six to eight weeks and the second wave may follow six to nine months later; the level of illness in the second wave may or may not be more severe than the first. There may also be a third wave. When a pandemic occurs, communities can expect to deal with its effects for up to 12 to 18 months. Not all parts of the world or of a single country are expected to be severely affected at the same time.

How will we know a pandemic has started?

The World Health Organization (WHO), which monitors influenza viruses around the world, will declare the beginning of a pandemic. The Public Health Agency of Canada and the provincial Ministry of Health and Long-Term Care will declare the beginning of the pandemic period in Canada and Ontario.

Why is pandemic influenza so serious?

A severe influenza pandemic can cause widespread illness and death. The influenza virus, in a pandemic situation, will infect many people in a short time. In a very severe pandemic, individuals will die. The demand for healthcare services will increase during a pandemic influenza outbreak, and the number of healthcare workers available will decrease due to illness. Many essential services will be strained, and everyday life may be severely disrupted for a period of months.

Can pandemic influenza be stopped?

Scientists are confident that an outbreak of pandemic influenza will occur again. Influenza viruses are always changing: new influenza viruses that spread easily emerge, or old ones can re-emerge. Once a fully contagious virus emerges, its global spread is considered inevitable. Countries might delay arrival of the virus through measures such as border closures and travel restrictions, but they will not be able to stop it.

Where will the pandemic influenza come from?

The Canadian Pandemic Influenza Plan and Ontario Health Plan for an Influenza Pandemic assume that a new strain is most likely to occur in Southeast Asia.

Will a state of emergency be declared when pandemic influenza arrives in Waterloo Region?

The federal and provincial governments will declare a state of emergency for Canada and Ontario respectively. This does not preclude a municipal government from making their own declaration; it is likely that an emergency would be declared for Waterloo Region.

To ensure Waterloo Region's pandemic response efforts are effective and organized, there will be a need to coordinate the emergency declaration. Any municipality that considers declaring an emergency will consult with the other municipalities. The Region of Waterloo would then convene a Regional Pandemic Control Group (RPCG) and work with the appropriate municipal representatives to coordinate the emergency declaration within Waterloo Region.

Who will be at risk?

Everyone will be at risk during a pandemic. Certain groups may be more at risk than others, but this will not be known until a pandemic happens.

How many people will become ill?

It is difficult to determine how many people will become ill during an influenza pandemic. Exact numbers will not be known until a pandemic event. A model, developed by the United States Centers for Disease Control and Prevention, predicts that in Waterloo Region:

- 55,500 to 129,600 individuals may require outpatient care
- 1,066 to 2,500 individuals may require hospitalization
- 300 to 700 deaths

Note: Based on a population of approximately 485,000.

What can be done to avoid the flu and the risk of infection?

The best way to protect yourself against all forms of influenza is to develop healthy habits:

- When you cough or sneeze, cough into your upper arm or sleeve. DO NOT use your hands. If possible, use a tissue. Throw out the tissue once you are finished. DO NOT re-use the tissue.
- Wash your hands with warm soap and water immediately after coughing or sneezing. If you are not near a sink, use an alcohol-based hand cleaner.
- Wash your hands regularly throughout the day, especially before handling and eating food.
- Keep your immune system healthy. Eat well, exercise regularly and get plenty of rest. Get your annual flu vaccination.

What else can be done to prepare?

Be informed. Understand that a pandemic can occur and what impact it will have on your friends and family. Also determine how you might help each other during that time. It might also be useful to develop child care contingency plans in the event schools and/or child care centres are closed.

Will a vaccine be available during a pandemic?

The virus circulating during a pandemic will be different from the viruses that circulated in the past, so a new vaccine will need to be developed. This cannot be done until the new strain is identified; therefore, a vaccine will be not be available at the start of a pandemic and will take at least four to six months to produce.

Until a vaccine is available, people are advised to follow proper cough etiquette and hand hygiene procedures and try to stay away from sick individuals and crowded places.

Will the annual flu shot protect individuals during a pandemic?

Because the virus circulating during a pandemic will be different from the viruses that circulated in the past, the annual flu shot will not protect you during a pandemic. However, the annual flu shot reduces your risk of contracting seasonal influenza and is recommended for all Ontarians.

What are antivirals?

Antivirals are drugs used for the prevention and early treatment of influenza. As supply of the drugs will be limited, the federal and provincial governments will determine who receives antivirals during a pandemic. Local health units (Region of Waterloo Public Health) will only be responsible for their distribution (based on federal and provincial guidelines).

Will people be quarantined or isolated?

At some point we may advise people who are sick with pandemic influenza to voluntarily stay home to avoid making other people sick. People with influenza feel very ill, so they will probably want to stay home anyway. Research demonstrates that quarantine is generally regarded as an ineffective measure to try and stop the spread of influenza.

Should I stop eating poultry?

People cannot get avian influenza from properly cooked poultry or eggs.

If I just stay home during an influenza pandemic, will I be safe?

Influenza is primarily spread from person to person. It is not possible to get infected if you are not in contact with sick people or freshly contaminated surfaces. One of the ways to slow the spread of influenza is to avoid large groups of people like entertainment events, crowded shopping centers, etc. However, most people will have to be in contact with other people to do everyday activities such as shopping, going to work, etc. Frequent hand-washing and good etiquette when coughing or sneezing can help keep you and others healthy and reduce the spread of disease.

Do I need to wear a mask?

No. At this time, the Public Health Agency of Canada does not recommend that members of the general public wear masks during an influenza pandemic.

What is the Region of Waterloo doing to prepare for a pandemic?

Region of Waterloo Public Health is responsible for coordinating and planning the local response to a pandemic. Because a pandemic will impact the entire community, Public Health is working with a variety of groups to develop a coordinated response for when a pandemic occurs. A Steering Committee, comprised of key partners, is working with Public Health to develop a local, coordinated, response and recovery plan for an influenza pandemic — the Community Pandemic Influenza Preparedness Plan (CPIPP).

The first stage produced a strategic planning guide and operational framework that establishes goals, assumptions, and principles pertaining to the community response and recovery effort, and outlines the process that will be used to finalize the CPIPP. The first phase of Waterloo Region's pandemic plan is titled Community Pandemic Influenza Preparedness Plan: Strategic Planning Guide and Operational Framework

The second stage of planning began in May 2006. Six working groups (one comprised of two sub-groups) were created to develop the various tools and guidelines that will be used by organizations and individuals in the response and recovery efforts. The plan is expected to be completed by Spring 2007.

Who is involved in the planning effort?

Currently, over 105 individuals from over 55 different organizations are serving as members of the Working Groups. Our pandemic planning partners include:

- Cambridge Memorial, Grand River, and St. Mary's General Hospitals
- Health care sector representatives
- Area Municipalities
- Emergency responders (police, fire, ambulance)
- Community organizations and support agencies
- Local school boards
- Universities, Conestoga College